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ABSTRACT

Focusing on the last in a series of seven seminars conducted by the Colombo Plan Bureau between 1969 and 1975 on the theme, "National Planning of Vocational and Technical Training," this report presents the proceedings of a seminar on the vocational education and training needs of one of the Colombo Plan members, Bhutan. Five working papers which provided the basis for discussion by the forty-eight participants are presented: (1) "The Economy of Bhutan," (2) "Skilled Manpower Requirements of Bhutan," (3) "Initiating a National Programme for Vocational Training," (4) "Human Resource Development in an Agrarian Economy," and (5) "The Colombo Plan and Bhutan." Seven speeches delivered during the opening and closing sessions are included, as well as recommendations resulting from the discussions held during plenary sessions. (BL)

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COLOMBO PLAN SEMINAR

Sponsored jointly by the Royal Government of Bhutan and the Colombo Plan Bureau

THIMPHU, BHUTAN, APRIL 1976

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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NATIONAL PLANNING OF VOCATIONAL AND TECHNICAL TRAINING

THE COLOMBO PLAN BUREAU, 12, MELBOURNE AVENUE, COLOMBO 4, SRI LANKA (CEYLON).

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THE COLOMBO PLAN

The Colombo Plan was conceived at a meeting of the Commonwealth Foreign Ministers in Colombo in January, 1950. Its aim has been the economic and social development of South and South-East Asia through the co-operative efforts of the countries in the region assisted by other member countries.

All Colombo Plan aid is negotiated bilaterally. The receiving country determines its needs and begins negotiations with a donor country on the best way to fulfil them. From the beginning, the concept of co-operation and equality among members was emphasised.

The 27 member countries of the Colombo Plan are:

Within the Region: Afghanistan, Bangladesh, Bhutan, Burma, Cambodia, Fiji, India, Indonesia, Iran, Republic of Korea, Laos, Malaysia, Republic of Maldives, Nepal, Pakistan, Papua New Guinea, the Philippines, Singapore, Sri Lanka, Thailand and Republic of Vietnam.

Outside the Region: Australia, Britain, Canada, Japan, New Zealand and the United States of America.

There are four focal points around which the Colombo Plan revolves:

(1) The Consultative Committee is the top policy-making body consisting of ministers of member governments. This Committee meets each year in one of the member countries. Its task is to survey the development of the region, assess the needs, and to examine how international co-operation — in the twin forms of capital aid and technical assistance — can help to fill the gaps in national resources and accelerate the pace of development.

(2) The Colombo Plan Council consists of the representatives of all the Colombo Plan countries most of whom have diplomatic missions in Colombo. The Council, which meets regularly in Colombo, does not deal with questions of capital aid. Its task is limited to promoting and co-ordinating technical assistance in the region.

(3) The Colombo Plan Bureau is located in Colombo and has four main functions: (i) serving as a participating body at Consultative Committee Meetings and acting in an advisory capacity for the Meetings, (ii) recording all the technical assistance given to the countries of the region under the Plan, (iii) promoting intra-regional technician training, (iv) disseminating information on the Plan as a whole.

(4) The Colombo Plan Staff College for Technician Education, which is located in Singapore, was established in 1974 as the first 'multi-lateral' Colombo Plan project. All 27 member governments are contributing in one form or another towards its operational costs. The College's main functions are to:

(i) undertake programmes in staff development and training for technician education staff;

(ii) conduct study conferences and courses for senior administrators in technician education;

(iii) promote and undertake research in the special problems of technician education and training within the region; and

(iv) provide advisory and resource services in technician education and training to countries both within and outside the region.

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INTRODUCTION

Under the Colombo Plan a major effort has been directed towards human resources development in order to help regional member countries attain greater self-reliance in skilled manpower. This followed the recognition by member countries that shortage of technical and skilled manpower at all levels in many of the countries of the region was standing in the way of carrying out development programmes.

The Colombo Plan Bureau has been serving as a catalyst in the process of developing vocational and technical training programmes on sound and systematic lines in many countries of the region. This has been done by means of a series of seminars aimed at emphasising the importance of planning and developing skilled manpower. Between 1969 and 1975 seven seminars were organised on a national basis on the theme "National Planning of Vocational and Technical Training".

The last of these seminars organised by the Bureau was held in Thimphu, Bhutan from 19 to 22 April 1976. This seminar was inaugurated by Her Royal Highness Ashi Dechen Wangmo Wangchuck, Representative of His Majesty in the Ministry of Development. The Honourable Dawa Tsering, Foreign Minister, delivered the address at the concluding session.

Dasho Om Pradhan, Secretary, Ministry of Trade, Industries and Forests, Mr. Nado Rinchhen, Officer on Special Duty, Department of Education, Ministry of Development, and Miss Leonore E. T. Storar, Director of the Colombo Plan Bureau, served as Co-Chairmen of the Seminar.

The Seminar, which was the first of its kind held in Bhutan, was attended by 48 participants representing Ministries and Departments of the Royal Bhutan Government, technical training and educational institutions and foreign experts working in Bhutan. The main objective was to make recommendations in relation to the formulation of a National Plan for Vocational and Technical Training. The ensuing discussions served :

(1) To focus attention on the urgent need for a planned and co-ordinated approach to vocational and technical training at the national level;

(2) To provide a forum for a frank exchange of views amongst those who are concerned with vocational and technical training at various levels;

(3) To explore and define approaches for effective communication and co-ordination between various agencies responsible for vocational and technical training in the different sectors of the economy;

(4) To identify the main problems that arose in the implementation of vocational and technical training programmes and possible solutions within the framework of government policies;

(5) To highlight the important role that national and international organisations could play in the planning and implementation of vocational and technical training projects in the country.

Discussions at the Seminar centred around five working papers, after the presentation of which the participants divided into three groups for more detailed dicussions of the issues arising from the papers and the plenary sessions. The draft of the Final Report was prepared by a Drafting Committee consisting of Mr. Nado Rinchhen, Miss Leonore E. T. Storar, Dasho (Dr.) T. Younten, Dasho C. Dorji, Mr. Rinchen Dorji, Mr. V. R. S. Cowlagi, Mr. V. S. Murti, Major Pem Tshering, Fr. W. Mackey, Mr. N. B. Chettri, Shri M. S. Garudachar and Mr. W. A. Barnett.

ACKNOWLEDGEMENTS

The Colombo Plan Bureau wishes to place on record its sincere appreciation of the close interest Her Royal Highness Ashi Dechen Wangmo Wangchuck, Representative of His Majesty in the Ministry of Development, took in the Seminar and for graciously agreeing to inaugurate it. The Bureau is also grateful for the invaluable co-operation it received from a number of persons who contributed in so many ways to make this Seminar a success.

REPORT AND RECOMMENDATIONS

1. The Seminar on "National Planning of Vocational and Technical Training", jointly sponsored by the Royal Government of Bhutan and the Colombo Plan Bureau, was held in Thimphu from 19 to 22 April 1976. The Seminar was inaugurated by Her Royal Highness Ashi Dechen Wangmo Wangchuch, Representative of His Majesty in the Ministry of Development.

2. In her inaugural address Her Royal Highness observed that although nature had endowed Bhutan with abundant forest, water and other resources, Bhutan's most valuable resources would continue to be its people. If the country was to achieve progress and prosperity for all the people, it was of crucial importance that the development of Bhutan's human resources should be rationalised and geared to the country's specific manpower needs. Her Royal Highness urged the Seminar to address itself to Bhutan's needs and to make realistic proposals for the formulation of a National Plan for Vocational Education and Training in the country. Such a plan would form an integral part of Bhutan's future social and economic development programmes.

3. There were forty-eight participants* representing Ministries and Departments of the Royal Bhutan Government, technical training and educational institution and foreign experts. The following Working Papers† provided the basis for discussions at the Seminar :

(*i*) **"The Economy of Bhutan"**
by Dasho Lam Penjor, Secretary, Planning and Development, Ministry of Development.

(*ii*) **"Skilled Manpower Requirements of Bhutan"**
by Mr. V. R. S. Cowlagi, Manpower Expert, Directorate of Manpower and Statistics, Ministry of Development.

(*iii*) **"Initiating a National Programme for Vocational Training"**
by Shri M. S. Garudachar, Director of Training, Directorate General of Employment and Training, Ministry of Labour, Government of India.

(*vi*) **"Human Resource Development in an Agrarian Economy"**
by Mr. W. A. Barnett, Adviser on Staff Development, Colombo Plan Staff College for Technician Education, Singapore.

(*v*) **"The Colombo Plan and Bhutan"**
by Dr. Aminul Huq, Adviser on Intra-Regional Training, Colombo Plan Bureau.

* The participants are listed in Appendix 'D'
† The Papers are reproduced in Appendix 'C'

4. It was recognised in the discussions that Bhutan's manpower problems are very different from those generally prevailing in other parts of South and South-East Asia. On the one hand there exists an acute shortage of trained manpower and many unfilled vacancies; on the other hand, there is considerable difficulty in finding sufficient numbers of suitably qualified people to be trained at existing institutions in the country or to take advantage of training opportunities available in other countries. About half the semi-skilled and clerical jobs in the Government are filled by expatriates and significant numbers of expatriates are required to fill the technical and managerial posts.

5. There was unanimous agreement in the Seminar that further attempts to improve and expand training institutions would be largely counter-productive unless these were accompanied by a substantially increased flow of adequately qualified students from the schools. It was appreciated that the Seminar did not provide an appropriate forum for detailed discussion of the present system of general education. Nevertheless it was noted that the problem was already recognised by the Government and steps to improve the quality of general education and to increase the numbers continuing in school beyond the primary levels were under active consideration. In view, however, of the importance of mathematics and science for students wishing to take some form of vocational training, the Seminar wished to place on record its view that the study of these subjects should be encouraged.

6. In the course of the discussions the question whether schools should provide vocational training as well as general education was considered. It was noted that on the whole experiments along these lines had not proved very successful in other developing countries and it was, therefore, considered that schools in Bhutan should concentrate on providing a broad-based general education. This would not, however, debar the importation of a 'rural flavour' in the curricula of all primary and secondary schools within the country. In a country whose resources are predominantly agrarian it is appropriate that an interest in agrarian activities combined, wherever possible, with practical work should be encouraged on the lines already followed in some schools.

7. On the question of a national programme of vocational and technical training the Seminar agreed to submit the following recommendations and observations for consideration by the Royal Government of Bhutan :

(*a*) The decision of the Ministry of Development to prepare estimates of current and future manpower requirements in different categories of occupation was a timely action. While it is recognised that such estimates cannot be precise, nevertheless they lessen the

risk of training larger numbers in particular categories than are likely to find appropriate employment and equally help to alert those responsible for framing training programmes of new requirements in terms of numbers or skills.

To retain their value it is important that such statistics should be kept under constant review and continually revised. Once initiated development will accelerate.

(*b*) Given the fact that the number of potential candidates for training as skilled craftsmen and technical personnel is severely limited, it is considered that the facilities available at the Royal Bhutan Polytechnic and the Don Bosco Technical School are adequate for the time being. With the proposed improvements in the system of general education this is, however, unlikely to be the case much longer. In view of the time it takes to plan and establish new institutions, advance planning is essential.

Until the schools are able to provide students of an adequate calibre for the existing training institutions, the special arrangements for pre-training courses at present being conducted are useful. This practice should, however, be discontinued as early as possible.

(*c*) In view of their large requirements of trained personnel it is right that Government departments should undertake "on-the-job" training. This is, however, at present being done more or less on an ad hoc basis. There should be a central body to ensure that such training is done in more organised and systematic manner. Basic training should be done centrally as far as possible, as already happens in some cases, e.g. typists. More specialised training can then be done "on-the-job" in departments, possibly supplemented as far as circumstances permit with block courses of a limited duration in conjunction with the technical training institutions. Part-time courses might also be considered after working hours in those cases where it is difficult to release personnel from their jobs.

(*d*) In addition to providing initial training, it is desirable that facilities should be made available for upgrading skills and also for retraining those whose skills become out-dated.

(*e*) The Government's policy of making provision for those who for one reason or another fail to complete their vocational or technical training courses, by providing counselling and arranging for them

to take some other training, is noted with approval. The scarcity of students capable of benefiting from some form of training is too serious to allow any to join the ranks of the unskilled.

(*f*) The programme for the provision of forestry and farm schools should be vigorously pursued along the present lines. In the foreseeable future some form of agricultural college is, however, also likely to be required to develop highly trained personnel for the more senior positions in agriculture, forestry, horticulture, etc.

(*g*) Bhutan's urgent need now and for the foreseeable future is for increasing numbers at the skilled craftsman and technical levels. Incentives are necessary to counteract the lure of "white-collar" jobs and the attractions of urban living. The importance of "blue-collar" jobs should be given due recognition in all possible ways including appropriate scales of pay in their favour. The heads of schools should continue to be kept informed of current opportunities at the skilled and technical levels, training facilities available, the minimum academic standards required, etc. so that they may provide a vocational counselling service to their pupils.

(*h*) It is noted that women are already entering the field of paid employment in increasing numbers. It is considered that the possibility of enabling women to make the maximum contribution to the economy of the country should be borne in mind and they should be encouraged to enter wider fields of employment.

(*i*) Keeping in view the acute shortage of manpower at all levels further mechanization to the maximum extent possible should be augmented. This will not only release substantial manpower for other gainful employment but also enhance output of work to a great extent.

(*j*) In view of the very small numbers of suitable candidates at present available for training at university level and for very highly specialised professions, it is not considered that it would be economically feasible for the present for Bhutan to set up training facilities at these advanced levels. Where necessary use should be made of training facilities abroad.

(*k*) One of the crucial problems facing the country is the acute shortage of properly qualified trainers in various fields. It is therefore strongly recommended that international bilateral assistance in the form of expertise for training of trainers within the country and in the form of fellowship abroad should be sought.

(*l*) It was recognised that the time is ripe to introduce adult education as far as practicable using all possible local facilities and personnel in rural areas, e.g. by utilizing the services of teachers during vacation, students doing national service, and mobile team with the audio-visual aids wherever possible with a view to educating the adult rural population in simple principles of health education, environmental sanitation, improvement of agriculture, animal husbandry and cottage industries to inculcate a sense of participation in national development.

8. Establishment of a National Authority Body for Vocational and Technical Training

In some of the earlier recommendations there are references to a central co-ordinating body. The present arrangements for co-ordination have been working well. However, the Seminar considered that with the accelerating needs of Bhutan's developing economy the time has now come for a more highly developed machinery for proper co-ordination. It is recommended that special machinery should be set up. This body should work in close collaboration with all Government departments, public and private sector organizations and should be responsible for such matters as :

(*i*) Policy Planning and Implementation

(*ii*) Syllabi and Curricula Development

(*iii*) Inspection, Evaluation and Certification

(*iv*) Survey, Research/Innovation

(*v*) Feed-back and dissemination of information

(*vi*) Specification & Standardisation of Building and Equipment.

9. External Assistance

Bilateral and mulilateral assistance in the form of equipment, fellowships and expertise has proved beneficial in the projects launched by the Government to promote socio-economic development of the country. It is recommended that the Royal Government should continue to explore the possibility of expanding such assistance.

Appendix ' A '

SEMINAR PROGRAMME

Monday, 19 April 1976

08.30 hours	Registration of Participants
09.00 hours	**INAUGURAL SESSION**
	Opening Address by Dasho Lam Penjor, Secretary (Development and Planning), Ministry of Development.
	Welcome Address by (Miss) Leonore E. T. Storar, Director, Colombo Plan Bureau.
	Inaugural Address by Her Royal Highness Ashi Dechen Wangmo Wangchuck, Representative of His Majesty in the Ministry of Development.
10.00 hours	Refreshments
10.30 hours	**SESSION ONE**
	"Skilled Manpower Requirements of Bhutan" by Mr. V. R. S. Cowlagi, Manpower Expert, Ministry of Development, Royal Government of Bhutan, Thimphu.
	Questions and Comments on Mr. Cowlagi's paper
12.30 hours	Lunch Break
14.30 hours	Group Discussions (with a tea break at 16.00 hours)

Note : Participants may also refer to the following Background Papers :

I. **"The Economy of Bhutan"** by Dasho Lam Penjor, Secretary, Planning and Development, Ministry of Development, Royal Government of Bhutan.

II. **"The Colombo Plan and Bhutan"** by Dr. Aminul Huq, Adviser on Intra-Regional Training, Colombo Plan Bureau.

Tuesday, 20 April 1976

09.00 hours	**SESSION TWO**
	"Initiating a National Programme for Vocational Training" by Shri M. S. Garudachar, Director of Training, Directorate General of Employment and Training, Ministry of Labour, New Delhi.
	Questions and Comments on Shri Garudachar's Paper.
10.30 hours	Tea Break
11.00 hours	**"Human Resource Development in an Agrarian Economy"** by Mr. W. A. Barnett, Adviser on Staff Development, Colombo Plan Staff College for Technician Education, Singapore.
	Questions and Comments on Mr. Barnett's Paper
12.30 hours	Lunch Break
14.00 hours	Group Discussions (with a Tea Break at 16.00 hours)

Wednesday, 21 April 1976

09.00 hours	**SESSION THREE**
	Presentation of Group Reports
10.30 hours	Tea Break
11.00 hours	Discussion of Group Reports
12.30 hours	Lunch Break
14.00 hours	Meeting of the Drafting Committee

Thursday, 22 April 1976

09.00 hours	**CONCLUDING SESSION**
	Consideration of Final Statement
10.30 hours	Tea Break
11.00 hours	Closing Speeches

SOCIAL ENGAGEMENTS

Sunday, 18 April

19.00 hours — Dinner by Dasho S. Penjor, Foreign Secretary

At Motithang Hotel

Thursday, 22 April

19.00 hours — Dinner by Miss Leonore E. T. Storar, Director of the Colombo Plan Bureau

At Motithang Hotel

Appendix 'B'

OPENING AND CLOSING SPEECHES

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INAUGURAL SESSION

OPENING ADDRESS *

by

Dasho Lam Penjor

I feel much honoured to greet and welcome you all here to this Seminar on 'National Planning of Vocational and Technical Training'. We are indeed grateful to Her Royal Highness Ashi Dechen Wangmo Wangchuck, the Representative of His Majesty in the Ministry of Development for so kindly agreeing to be here to inaugurate this Seminar. As the future pattern of education and utilization of skilled manpower in this country is likely to shape under the direction of Her Royal Highness, her presence today is of special significance to all of us participating in this Seminar. We are also grateful to Miss Leonore Storar, Director of the Colombo Plan Bureau for so kindly agreeing to arrange this Seminar in Bhutan at a time when the Fourth Five–Year Plan for the economic development of this country is just being launched. This is indeed an approproate time for taking stock of national and international developments in vocational and technical training and to consider how best international expertise can be harnessed for the speedy and effective utilization of the human resources of this country.

Only recently has Bhutan started on the road of economic development. The First and the Second Five–Year Plans largely concentrated on the development of necessary infrastructure in terms of basic amenities such as roads, buildings and basic provisions for health and veterinary services. It was only during the period of Third Five-Year Plan that the tempo of economic development was accelerated bringing sharply into focus the shortage of skilled manpower in this country.

Over these last two decades this country, has built up a large network of primary and secondary schools to provide the necessary input for technical skills, so badly needed for the expanding Government services. A Junior Technical School was set up as long ago as 1965 for providing vocational and technical education to students up to the matriculation level and turning out craftsmen, much needed in the development activities of this country. Besides this technical school, a number of vocational training centres for training of various skilled personnel have also sprung up in recent

*Delivered by Mr. Thinley Dorji, Deputy Secretary, Ministry of Development, on behalf of Dasho Lam Penjor, Secretary, Planning and Development, Ministry of Development.

years. Most of these training centres have been established by Governmental agencies themselves to cater for their own needs. The fairly sizable stock of primary school teachers, para medical and veterinary personnel and field workers in forestry owe their present numbers to these early efforts at institutionalized training. In the recent months, the scope of training programmes within the country has been expanded to cover such fields as agriculture extension, geological drilling, accountancy and secretarial practice.

Bhutan has also been fortunate in securing international and bilateral assistance from the member countries of the Colombo Plan, the various specialized agencies of the United Nations and also from neighbouring countries. In addition to aid in the form of financial assistance, technical expertise and provision of equipment, these countries have also generously been offering facilities for training at all levels and in various fields. In recent years, however, this country has been making determined efforts towards self-reliance in respect of programmes for development of technical and vocational training.

There is not much disagreement today regarding the broad objectives in the field of educational and manpower planning. Almost every developing country is keen to achieve self-sufficiency in the matter of skilled manpower, and, at the same time, avoid the spectre of educated unemployment. This leads us to the recognition of the need for thoughtful manpower planning at the national level. This awareness also acts as a spur to initiate appropriate programmes for development of human resources in the country and to review them from time to time to suitably modify them in the light of changing needs. In our country, which is just on the threshold of modernization, with less than two decades of planned economic development behind it, the task of estimating future requirements of manpower is not particularly easy. Though initial steps in this direction have been taken in recent months, we all are aware that there is still a long way to go. And, I sincerely hope that the participants in this Seminar will contribute their wisdom and their rich international experience towards providing us the basis for drawing up future policies for more effective utilization of human resources in this country.

For obvious reasons, the present manpower and educational policies accord priority to the needs of skilled personnel for the Government than to the needs of the private sector or for self-employment. The latter areas hardly employ any significant numbers of skilled personnel, besides, the current manpower shortages are so high that even a part of requirements of the Government sector would be difficult to meet in the forseeable future. It is for this reason that, in the initial stages of development, more attention

is being paid to the needs of skilled personnel for the Government. I have dwelt at some length on this aspect because, in a number of developing countries in this region, there does exist a sizable private sector whose needs of skilled personnel have also to be met by institutional training. I believe we have not yet come to that stage in our country.

Our main task at present is to assess accurately the needs of skilled manpower for government services and seek ways of fulfilling them in the shortest possible time. At the same time, we are also fully conscious of the needs of modernizing agricultural and animal husbandry practices in this country with a view to increasing the productivity in these sectors of economy. It is in this context, that I am particularly happy to note that the requirements of skills for modernizing an agrarian economy are being specifically considered in this Seminar; I am sure, that, in this area also, we would benefit immensely from the deliberations of the experts assembled here today.

The Fourth Five-Year Plan of this country, launched only a few weeks ago, is over six times larger than the First Five-Year Plan and includes many fields of activities not hitherto covered. Obviously, our needs of skilled personnel, both in terms of quantity and quality, are likely to vary significantly from those in the past and, it seems to me, that this is as appropriate a time as any, to carefully appraise what has been happening so far in these areas of national concern and to determine the direction the future programmes in these fields ought to take.

I am also happy to note that this Seminar will consider not only these issues in depth but also pay attention to related questions such as evolving a suitable organizational structure at the national level, accelerating innovations in educational technology and developing a framework of incentives towards achieving these objectives.

Before I conclude I would, like to formally welcome the Director of Colombo Plan Bureau and other representatives of this Organization, without whose help this Seminar—the first of its kind being organized in this country—would not have materialized. I thank you all for the sincere help and encouragement you have given to the organizers and participants of this Seminar.

It is now my great pleasure and privilege to request Miss Leonore Storar, the Director of the Colombo Plan Bureau to address this inaugural session.

WELCOME ADDRESS

by

(Miss) Leonore E. T. Storar *

As Director of the Colombo Plan Bureau, and on behalf of the Colombo Plan Council for Technical Co-operation in South and South-East Asia, it is my very pleasant privilege to welcome you to the Inaugural Session of the Seminar on "National Planning of Vocational and Technical Training" which is being jointly sponsored by the Royal Government of Bhutan and the Colombo Plan Bureau. I am particularly grateful to Her Royal Highness Ashi Dechen Wangmo Wangchuck for her presence with us.

As all know the planned development of Bhutan was initiated by His late Majesty Jigme Dorji Wangchuck and His late Prime Minister, His Excellency Jigme Dorji in 1961. It was in the following year 1962, that Bhutan became a member of the Colombo Plan. Bhutan has received under the Colombo Plan both capital aid and technical assistance from India, Australia, Britain, Japan, New Zealand and Singapore. The important fields in which Bhutan has received scholarships and training awards in other member countries are: agriculture, economics, education, engineering, industry and commerce, medical sciences, public administration, and works and communications.

The Colombo Plan was first conceived at a meeting of the Commonwealth Foreign Ministers in Colombo in January 1950, with a membership of only seven countries, now grown to twenty-seven. Its aim has been the economic and social development of South and South-East Asia through the co-operative efforts of the countries in the region assisted by the developed member countries. It was launched following recognition by the participating countries that if the region was to make social and economic progress, systematic national planning and concerted and co-operative efforts by the developed and regional members jointly was necessary. It pre-dated many of the programmes which were subsequently launched by the other international agencies with the same objectives.

The Colombo Plan Bureau itself was set up to maintain a watching role over technical assistance which is organised on a bilateral government to government basis. At an early stage the Bureau pinpointed the general lack of trained personnel at the medium and lower levels in the region as a serious obstacle to carrying out the development programmes. In order to highlight the importance of planning in the development of skilled manpower resources the Colombo Plan Bureau started in 1964 an Intra-Regional Programme with the assistance of a specially recruited Adviser on Intra-

*Director, Colombo Plan Bureau.

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Regional Training. A main objective was the development of manpower at the technician level, that is, the level between the professional engineer and the skilled craftsman, an area that had been neglected in the past in the countries of South and South-East Asia.

In addition to encouraging countries to make use of the technician education and training facilities already available in the region, the Programme has taken the form of a series of regional colloquia and national seminars and workshops which have focussed on the main problems which arise in planning the development of skilled manpower resources. It was from the discussions at these meetings that the idea originated for establishing in Singapore the Colombo Plan Staff College for Technician Education which opened last year. I might mention that it was at one of the first courses run by the Staff College that I first had the pleasure of meeting Mr. Nado Rinchhen, who is co-ordinating the arrangements for this seminar on behalf of the Royal Government of Bhutan.

Bhutan's need for trained men and women is clear. We in the Colombo Plan Bureau are therefore delighted to be co-sponsoring with the Government of Bhutan this Seminar at which the main factors involved in a planned and co-ordinated approach to vocational and technical training at the national level will be considered. The general objectives of the Seminar the main areas of discussion and the way in which the Seminar will be organised based on group discussions, are set out in the Bureau's paper on Strategy and Issues. In the time available it will not of course be possible to produce a final detailed blue-print but it is hoped that the recommendations emerging from the Seminar will assist the Government in drawing up a comprehensive plan for the development of Bhutan's manpower resources.

In conclusion, I would like to thank the Royal Government of Bhutan, the Government of India and the Colombo Plan Staff College for making available consultants to assist in this Seminar. We are grateful to the Government of Bhutan, particularly the Honourable Dawa Tsering, Minister of Foreign Affairs, and Mr. Nado Rinchhen, the Chief Co-ordinator, for making all the arrangements and our thanks are also due to Dasho T. Tobgyel, Secretary General, Ministry of Development, Dasho S. Penjor, Foreign Secretary, Dasho Lam Penjor, Secretary, Planning and Development, and Mr. D. K. Chhetri, Deputy Director, Ministry of Foreign Affairs, for their active interest.

As Mr. Thinley Dorji has said, I know it will be a source of encouragement to us all that Your Royal Highness has graciously honoured us with your presence and that you have agreed to inaugurate this Seminar. It is with great pleasure that I now invite Your Royal Highness to address us.

Miss Leonore E T. Storar, Director of the Colombo Plan Bureau, speaking at the inaugural session.

INAUGURAL ADDRESS

by

Her Royal Highness Ashi Dechen Wangmo Wangchuck *

It gives me great pleasure to be invited here today to inaugurate the seminar on National Planning of Vocational and Technical Training. I am very happy at the presence of the Director of the Colombo Plan Bureau, Miss L. Storar, and the distinguished consultants. I sincerely hope that their brief stay in our country will be both fruitful and enjoyable.

Our people have traditionally possessed knowledge and skills necessary for meeting the basic requirements of life, as well as for sustaining spiritual, artistic and cultural pursuits of a very high order. Our huge and magnificient dzongs and monasteries have withstood the ravages of time for countless centuries, serving as an enduring tribute to the native genius of our architects and builders. Our people have possessed the knowledge and skills to construct suspension and cantilever bridges over our numerous rivers and streams. Some of our centuries-old irrigation systems which function effectively to this day are marvels of engineering and human ingenuity. Our craftsmen continue to produce many articles of daily life, such as handloom cloth, metalware, thankas and images, wooden and bamboo works, of the highest degree of excellence. While it is essential that in the modern society that we are trying to create in Bhutan, our people acquire new knowledge and skills to meet the compulsions of modernisation, I do hope that adequate ways and means will be found to preserve our traditional skills, so that an important element of our rich and ancient cultural heritage is not sacrificed in the pursuit of new values.

In Bhutan, while nature has endowed us with abundant forest, mineral, water and other resources, our most valuable resources will continue to be our people. If our country is to achieve progress and prosperity, if all our people are to enjoy a decent standard of living, it is of crucial importance that the development of our human resources should be rationalised and geared to meet our specific manpower needs. We must not, at all costs, waste even a small part of our human resources through defective or inadequate planning or training. I hope that the Seminar, keeping in mind the present stage of our country's development, will address itself to every aspect of the manpower position and needs of our country, and suggest concrete and practical measures for the formulation of a National Plan for Vocational Education and Training in our country. Such a Plan would form an integral part of our future social and economic development programmes.

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*Representative of His Majesty, Ministry of Development.

I have every confidence that our enthusiastic young officials participating in the Seminar will be able to gain valuable experience which will help us in promoting Vocational Education and Training in our country in the future.

It is indeed a matter of great satisfaction for me and my Government that our long association with the Colombo Plan has always been happy and productive. I have no doubt that the deliberations of this seminar which has been jointly sponsored by the Ministry of Development of the Royal Government of Bhutan and the Colombo Plan Bureau, will be of great and lasting benefit to the country.

Excellencies, Ladies and Gentlemen, I have the honour to convey to you the good wishes of His Majesty the King for the success of this Seminar.

I have now much pleasure in formally inaugurating this Seminar

Inauguration of the Seminar by Her Royal Highness Ashi Dechen Wangmo Wangchuck, Representative of His Majesty, the King of Bhutan, in the Ministry of Development.

CONCLUDING SESSION

CLOSING ADDRESS

by

Mr. Nado Rinchhen *

At the concluding session of this Seminar, it is my privilege and pleasure to thank you, Miss Storar, Director of the Colombo Plan Bureau, Mr. Barnett, Adviser on Staff Development, Colombo Plan Staff College for Technician Education in Singapore, Mr. Garudachar, Director of Training, Ministry of Labour, Government of India, and Messrs. Pathmanathan and Hassan Alavi, Assistants to the Director, for their valuable contribution in making this Seminar a success.

I would also like to avail this opportunity to extend my heartfelt thanks to Her Royal Highness Ashi Dechen Wangmo Wangchuck, the Representative of His Majesty in the Ministry of Development and His Excellency Lyonpo Dawa Tsering, the Foreign Minister, for the great personal interest that they have so kindly shown in this Seminar, and also gracing some of the plenary sessions with their presence.

All the distinguished participants, and the Bhutanese officials in particular, I am sure, will agree with me that we have broadened our horizons in the field of vocational and technical training which is so vital in any fast developing country like Bhutan, through cross-fertilisation of ideas. Undoubtedly, we have learnt a great deal in the past few days.

My thanks are also due to Dasho Om Pradhan, Secretary, Ministry of Trade, Industries and Forests, who had chaired two plenary sessions—sparing his most valuable time. I wish to thank the Chairmen of the three groups for their most valuable contribution and hard work. Mr. Cowlagi, the Manpower Expert, Directorate of Manpower and Statistics also deserves my thanks for his excellent paper "Skilled Manpower Requirements of Bhutan" which had provided a useful basis for our discussions during the Seminar.

Many members of the Secretariat of this Seminar, who have worked hard round the clock during the last few days—and in fact much before the Seminar began—all deserve our wholehearted thanks.

Last, but certainly not the least, I am very grateful to all the participants for their sincere co-operation in making the Seminar a success.

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*Officer on Special Duty, Department of Education, Ministry of Development, Thimphu.

CLOSING SPEECH

by

(Miss) Leonore E. T. Storar *

I understand that Dasho Om Pradhan will be saying a few words about the recommendations which have emerged from this conference and I will therefore not say anything on that score. I would, however, like to congratulate all the participants including the hard-working Group Chairman on producing what I think is a very lucid and positive report. The production of such a report has only been made possible by the very frank and fruitful discussions in which everyone participated. If everybody had just sat back and let the other man speak we would have had a very lifeless and not very thoughtful report.

On behalf of Mr. Garudachar and Mr. Barnett as well as the other members of the Bureau, I would like to say how very grateful we are for all the kindness which has been shown to us from the moment we stepped across the border and how much we have enjoyed this very stimulating Seminar. I am indeed grateful to Dasho Om Pradhan and Mr. Nado Rinchhen, my fellow Co-Chairman, as well as to all those who have worked so hard to make the Seminar possible and to ensure its smooth running. I must say I have never known the arrangements for any Seminar to be run with such perfect precision as has been the case here.

On behalf of all the members of the Colombo Plan team I would like to express our warm good wishes and the hope that the Seminar's recommendations may play their part in promoting Bhutan's prosperity and the happiness of its people, who after all have been at the very heart of this Seminar.

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*Director, Colombo Plan Bureau.

Dasho Om Pradhan, Secretary, Ministry of Trade, Industries and Forests, Thimphu, presiding at the Concluding Session of the Seminar. On his left are Mr. Nado Rinchhen, Officer on Special Duty, Department of Education, Ministry of Development, Thimphu, and Mr. M. S. Garudachar, Director of Training, Directorate-General of Employment and Training, Ministry of Labour, New Delhi. On his right: Miss Leonore E. T. Storar, Director of the Colombo Plan Bureau.

CLOSING REMARKS

by

Dasho Om Pradhan *

Miss Storar has mentioned that I would be saying a few words in connection with the recommendations that this Seminar would be submitting to the Government. As all the participants are aware I had to make several interventions during the course of the discussions. I had also been rather abrupt in respect of some of the decisions that were taken. Since everybody has a copy of the recommendations and since we have discussed all these in detail, I have nothing else to add except to say that I personally feel that these recommendations are of a high order and this has been made possible because of the home work that all the participants have done and the recommendations that everybody have made in order to come out with this final documents. I would like to personally thank Miss Storar. I would also like to thank the two consultants, Messrs. Garudachar and Barnett for having assisted us to make this Seminar a success. I was very happy with the participants. There was absolutely no need for me to use this overriding button here. There was always perfect order and the participation was, again I would like to use those same words, of a very high order. With these words I would like to request the Honourable Foreign Minister to address the Seminar.

*Secretary, Ministry of Trade, Industries and Forests, Thimphu.

CONCLUDING ADDSESS

by

Lyonpo Dawa Tsering *

I would like to thank Miss Storar for inviting me to the closing session of this Seminar and I would also like to thank the Chairman for giving me this opportunity of giving some last thinking. Education is a subject which has always been very close to my heart as many of my colleagues in the Government know. I have always been fascinated by the limitless possibilities of moulding the human mind and shaping the human hand through a well conceived and well-executed system of national education and training. The society undoubtedly has a great role in producing citizens who are well adjusted, well balanced, physically and mentally and who can contribute to the common good. In that sense every child is a challenge to the society in which he or she is born. We in Bhutan are singularly fortunate in that with a great vision, wisdom and leadership provided by our dedicated and dynamic monarch, we are trying to create a society that is the synthesis of the best in our rich and ancient heritage and the best in the new values of the modern world. While the preservation of our cultural heritage is a must if we are to retain our distinct identity of the people we must seek at the same time to reap the fruits of science and technology if our people are to lead better material life.

If I may be permitted to give an example, we all know that the cities and the countryside of Japan and Germany, undivided Germany, have been laid waste and the factories were in ruins at the end of the second world war. Both these countries had extremely limited capital and raw material resources at their disposal at that time. Yet within a relatively short period of time, because of the great skills which their peoples possessed in abundance coupled of course with hard work, Japan and West Germany not only rebuilt their war devastated economies but had become industrial giants of the post-war world.

The lesson to my mind is that human skill is the key element in the process of production or development or modernisation or whatever you may call it and that without this key element other natural resources are either wasted or not utilised. In Bhutan the love and devotion of our people for our King and country, the deeply ingrained sense of order and discipline, the appreciation of duty as manifested in our arts and architecture, the innate ability to acquire skills rapidly and the dignity of human labour are

*Minister of Foreign Affairs, Ministry of Foreign Affairs, Thimphu.

The Minister of Foreign Affairs, Government of Bhutan, Lyonpo Dawa Tsering delivering the Closing Address at the Seminar.

factors, which to my mind, given proper planning, administration, education and training, are conducive to producing the type of manpower which can make our small country within the foreseeable future a small paradise in the Himalayas.

I believe a lot of useful discussions have taken place in this Seminar within the past few days. I have no doubt that by identifying our problems and requirements of manpower more clearly and by understanding our goals more clearly the conclusion, of this Seminar will constitute an important step forward in our efforts to achieve self-sufficiency in the field of manpower development.

I would like to thank the audience for giving my rambling thoughts such patient hearing. It is not often that we poor Ministers, a highly maligned group in the modern world, get the opportunity of sharing our thoughts with such a distinguished and intelligent audience. I would like to mention that in the first session of the plenary, which I attended very briefly, I was greatly impressed by the way in which our young officers participated in the discussions. Their enthusiasm, the clarity of their thought and conciseness of their expression were highly admirable. It is apparent that at least in our country in the years to come we will not have a leadership gap with so many bright and up-coming officers. Before I conclude, I would on behalf of the Royal Government of Bhutan like to thank Miss Storar, Director of the Colombo Plan Bureau, the distinguished consultants and my old friend, Mr. Pathmanathan, for having visited us in Bhutan and for having given us the benefit of their long experience and great expertise in the field of vocational and technical training. I hope that they will either individually or collectively visit us again in the near future.

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THE ECONOMY OF BHUTAN

by

Dasho Lam Penjor *

Any paper on the economy of Bhutan has to keep certain basic conditioning factors in mind. Foremost among them is that Bhutan, with all its ancient history and traditions, is yet one of the youngest countries to embark on the road to economic development. For centuries Bhutan had willed itself to a policy of deliberate isolation from the rest of the world. It had been content to stay away from the metamorphic currents sweeping other parts of the world. Bhutan was, in fact, the last SHANGRILA. It was only a decade back that a conscious decision was taken to embark on a course of development with all its modern connotation. A severe cleavage is thus manifest in the country's history as between its traditional isolation and its current drive towards progress. One conditions the other and the most noteworthy feature of Bhutanese economy today is the over-powering influence of traditional principle and norms in all aspects of daily life. The factor of tradition is, in fact, the fundamental governing feature of the Bhutanese system and the main cause for the attraction which Bhutan holds for the rest of the world.

Because of the newness of the development experiment one should not expect too much from Bhutan by way of modern statistical data or other information defined in scientific economic terminology. Bhutan has its own yardstick, its own systems, its own measuring tapes for determining the differentials of growth. To measure economic progress in Bhutan in terms of gross annual products, domestic saving, investment capital, etc., would be to completely miss the underlying spirit of Bhutanese progress. A better gauge would be to measure the smile on the faces of its people, to see the contentment of its family life, to experience the depth of religious feeling and to sense the inner peace of the country. These are indicators which scientific economics does not provide for but which are, in fact, what economics is all about. This paper will not, therefore, attempt to go into details of statistics as yardsticks of progress. It will instead give a general review of what the salient principles underlying Bhutanese economic progress are with some mention of what had been achieved and what is sought to be achieved.

*Secretary Planning and Development, Ministry of Development, Royal Government of Bhutan.

Another factor worthy of being borne in mind while discussing the economy of Bhutan is that the take-off point for Bhutan from the traditional system has a very different definition to what is commonly known in other under-developed economics. Bhutan has never really known poverty as it exists in other less fortunate countries. Because of their country's small population and abundant natural resources, the Bhutanese have always been self-sufficient in the basic essentials of food, clothing and housing. It was largely due to this fact that the development imperative in Bhutan came so late and even when it did come the intention was not so much to provide security of life and property as to add to the fullness of living experience. In fact, the first three development plans launched by the country concentrated more on the setting up of basic social amenities, social services and communications rather than on increasing economic productivity of the country. As will be discussed later, it is only now, when Bhutan is set to launch its fourth Five-Year Plan, that a concerted attempt is being made to increase the net produce of the land through a selective investment policy.

Bhutan's economy is predominantly agrarian. The major vocational occupation of the people is agriculture combined with a natural blend of household industry and animal husbandry. Industry has so far held little attraction for the common man. It is, therefore, in the agrarian sector that the major characteristics of the economy are to be found. And it is precisely in this sector that large scale investment will be forthcoming in the development era ahead.

When Bhutan embarked on its development enterprise it adopted a system of planned economic growth instead of following a system of laissez-faire. It was the state which controlled the pace of development as well as the pattern of growth. This was but natural in a country which has had so much discipline as a part of its tradition. It was obvious that if there had to be growth, the growth should effect all the people simultaneously rather than a few who had the initiative to set out on their own. It is this thinking which has underlined all the development plans of the past decade and is the principal feature of the Plan now being launched. The First Five-Year Plan which started in 1961 had an outlay of Nu. 10-72 crores and was designed to open the country by improving communications and providing basic social amenities to the people. The Second and Third Five-Year Plans continued this trend and at the same time concentrated on the setting up of infra-structural facilities which could, in course of time, give the necessary thrust for achieving the country's desired social and economic objectives. The result was that within a span of 16 to 17 years the country achieved what it has taken others centuries to do.

Some of the major achievements in vital sectors of economy and in the creation of infra-structure for development of the country during the last fifteen years or so are set out below :

Agriculture

Bhutan being essentially an agrarian country, income from the agricultural sector forms the back-bone of its economy. Approximately 13.83 lakh acres is cultivable out of the total geographical area of 115.06 lakh acres. Sustained efforts have been made for the development and modernization of agriculture. An agricultural extension service has been set up: five agriculture farms have already been established at Wangdiphodrang, Shemgang, Khalikhola, Chirang and Mongar for educating the farmers in modern methods of agriculture. Twenty-two thousand acres of land has been brought under irrigation since the inception of an irrigation cell towards the end of the First Plan. Prior to this, the villagers used to manage their own water resources. Supply of improved seeds, fertilizers, improved tools and implements, soil conservation, and plant protection are some of the other measures taken for increasing productivity. It was realised that the special agroclimatical features of Bhutan make it an ideal place for development of horticulture. Special attention was, therefore, given to cultivation of cash crops like Potato, Oranges, Apples, Walnut and Cardamom. It is encouraging to note that farmers have taken to cultivation of these crops in a big way.

The Food Corporation of Bhutan was set up in the later half of 1974, for procurement, transport, storage and distribution of food grains, consumer goods and horticultural produce. The operations of the Corporation extend to even remote areas of the country, and it did a splendid job in supplying food grains to areas sometimes affected by scarcity.

A number of Livestock Farms have been set up and extension services in Animal Husbandry have been organized. A programme of upgrading of local breeds of livestock and increasing its production has been taken up. The extension services, and other facilities provided by the Animal Husbandry Department have created an awareness among the farmers about the role of livestock and value of its upgrading and scientific management.

Power

Bhutan has the ideal geographical terrain for the development of cheap hydel power and this factor is now being greatly appreciated in terms of input—output economics. Prior to 1960 exploitation, of hydro-potential was limited to turning of indigenous turbine wheels of rice hullers, grinders,

etc. A number of micro-hydel projects have since been set up. Fourteen townsand 14 villages have already been electrified. The total availability of power at peak generating capacity (including power purcha[illegible]om India) was 3.9 MW. The immense power potential of the country, however, still remains to be exploited. The principal source of electric power in Bhutan in the near future would be the Chukha Hydel Project. It is envisaged to construct a 40 metre high diversion dam and an underground power house for generation of 320 MW of power. The Chukha Hydel Authority has already been set up, and or work on the project has been taken in hand.

Forests

Bhutan has rich forest resources. The total area under forest was estimated to be 30,000 sq. kms. Major part of these valuable forest recources is located in inaccessible areas. These could not be fully harnessed for lack of adequate information about forest resources. Survey and mapping of the entire forest area to collect exact data about the growing stock, annual increment of growing stock, accessibility of forest areas was necessary for proper exploitation of forest resources. A pre-investment Survey Team was, therefore, set up in August, 1974 for pre-investment survey of forest resources. It is expected that 5,500 sq. kms. of forest will be covered by it by end of the Third Plan. The work done by it is supplemented by survey and demarcation division of the Forest Department. It is expected that 1,000 sq. kms. of forest will be surveyed and demarcated by the end of Third Plan. Roads and paths have also been provided wherever it was possible for bringing forest resources within reach. Five thousand hectares of forest plantations are likely to be raised by end of Third Plan. Feasibility studies for setting up of forest based industries were carried out. Rosin, Turpentine, and Tea Chest Veneer Industries and a Match Factory have already come up in Eastern and Southern Bhutan.

Industries

Although Bhutan has vast natural resources in the form of minerals and forests, there has not been spectacular development in Industries. It was mainly due to lack of data about industrial raw materials, basic infra-structure, and technically qualified personnel. The limited internal market was also a restraint on industrial growth of Bhutan. Efforts have been made to provide basic infra-structure for development of Industries. A number of industries like match factory, manufacture of barbed wire, furniture, candle, aluminium utensils, pencil slates, plywood veneers, workshops, saw mills, printing press, tyre re-treading units have been set up within the country. A large number of survey and feasibility reports

have been undertaken for location, exploitation and commercial utilization of natural resources of the country. Industrial estates are being set up in selected areas where necessary infra-structure facilities will be provided for setting up of industries. An Industrial Development Fund has been created for establishing new industries and investment in joint sector ventures. A scheme for grant of financial assistance for setting up of small-scale industries was started in 1969. Assistance of the Bank of Bhutan was obtained in 1974. A Revolving Loans Fund has been created for financial assistance to small-scale industries. Loans amounting to more than Nu. 53.00 lakhs have been granted to nearly 200 parties. Handloom centres have been set up at Thimphu, Bumthang and Tashigang. A Handicrafts Emporium and Fine Arts Centre at Thimphu and Wood-working Centre at Paro were set up during the Third Plan. A 300—ton per day Cement Factory is being set up at Pagli. Craftsmen are being supplied with improved tools at subsidised rates. A State Trading Corporation of Bhutan has been set up, and modern banking services have been organized in the country.

Communication

It was in the sixties that modern road development programmes were ushered in the country; all important centres of population have now been connected by all-weather roads; a network of feeder/border roads is also emerging. A modern postal system with 58 post offices in various parts of the country has been set up. Telegraphic communications between Thimphu and Phuntsholing and India have been made available. A network of telephone exchanges and trunk lines has been established. Ten Telephone exchanges were already working in various parts of the country. Two more exchanges will be added to it by the end of the Third Plan. The telecommunication services have been further augmented by fifteen civil wireless and eight hydrometerological wireless stations in various parts of the country. Facilities of wireless communications with the Royal Bhutan Mission in New Delhi are also available.

Health and Education

A modern health service with a network of 61 dispensaries and 5 hospitals has been established. Three more hospitals were under construction and are likely to be opened before the commencement of the Fourth Plan. Facilities for education upto matriculation standard are now available within the country. Seventy-six primary schools 14 junior high schools, 6 central, schools 3 public schools and 1 Nursery school have already been opened. Another 6 primary schools will be opened during the remaining part of theyear 1975/76. One pre-school care training centre has also been

established at Paro. A Junior College with Class XI and XII is also expected to function by May 1976. A teachers' training institute and two technical schools have been set up to meet the needs for the skilled manpower. Town planning and urban development have been taken up.

It will be impossible to list all that has been done in the past decade of development but the above items are some of the indicators to the direction of growth. The potential of development which has been created in the past few years can serve as an ideal springing board for socio-economic development in the future. Bhutan has, therefore, reached a very crucial stage in its economic history because now the question of choices arises. The country must decide its long-term objectives in a manner best suited to achieve balanced economic growth. It was from this point of view that in 1974, before the ground work for the Fourth Five-Year Plan was laid, the Government adopted a National Economic Policy enunciating the parameters along which the country would now progress. The National Economic Policy provides for a consolidation of the traditional institutions and values of the land and at the same time ordained that attainment of economic self-reliance and improvement in the living standards of the people would be the major postulates of future economic progress. These objectives are a natural corollary to the country's development so far and embody the past history of the country as well as a vision of the future. It seeks to consolidate the essential aspects of traditional culture with the modern trends of development. At the same time it gives a realistic call for harnessing all available natural resources for achieving economic self-reliance to the extent possible. The National Economic Policy also provides for substantial improvement in the living standards of the people in a manner which will not only remove socio-economic disparities but also lead to a balanced and all round development of human character.

The objectives laid down in the National Economic Policy can be achieved through attaining balanced economic growth combined with socio-economic justice. For the first time Bhutan has opted for increasing productivity through selective investment made in those sectors of the economy which are capable of yielding high returns. These sectors are agriculture, animal husbandry and industries. The Fourth Five-Year Plan has provided for heavy investment in these fields with a view of obtaining the maximum returns therefrom. At the same time the country does not want that growth should in any way disrupt the traditional Bhutanese fabric of life. Checks and counter-checks have been provided which could prevent any change in the pattern of life. Thus for example it will be the State which will control the essential factors of production, socio-economic disparities will be reduced through appropriate financial procedures, invest-

ments will be made in fields where the maximum benefit accrues to the maximum number. Bhutan does not want progress at the cost again in its planning process.

It is much too soon to say how far these desired objectives will be fulfilled. Yet this much is certain. Given the basic discipline and strong character of the Bhutanese people, the strong affections and loyalties which they owe to their King and their country, the strong hold of tradition in this ancient land, the vision for the future seems altogether assured. It is on this strong hope that the economy of the country will thrive and will grow.

SKILLED MANPOWER REQUIREMENTS OF BHUTAN

by

Mr. V. R. S. Cowlagi *

The present Manpower Situation in Bhutan

The manpower situation in Bhutan differs very significantly from most other Asian countries. There is virtually no problem of unemployment and more particularly educated unemployed, so predominant in neighbouring countries, are non-existent here. It does not take more than a week for an educated youth to find himself a new job or change to a better job. In most cases, more training facilities are available in the country and abroad than are suitable candidates to avail of them.

It is therefore not surprising that about half of the work force engaged in semi-skilled and clerical jobs in the government is expatriate. There are also significant numbers of expatriate personnel among technical and managerical categories, most of whom are directly recruited; a small number of highly skilled personnel are experienced civil servants seconded from India; even a smaller number are experts drawn from international organizations, notably the Colombo Plan, the United Nations Development Programme, the UNICEF and the WHO.

The employment situation in the organized private sector also presents the same picture. Many activities commonly carried out by the private sector elsewhere are either in the governmental sector or in the joint sector. This is true of banking, insurance and most of the large manufacturing establishments. Here too, expatriates form a large proportion of the work force. In respect of wholesale and retail trade, firm statistics are not available, but in this field also a large number of those employed are non-nationals.

Though the numbers of Bhutanese nationals entering government service has rapidly grown in the last decade, facilities for vocational and technical training have only been established in recent years. So, a good proportion of Bhutanese nationals, especially at the middle and lower levels have only had on-the-job training in the country and only a small number of them have had supplementary training in India and abroad, under the aid programmes of the Government of India, the Colombo Plan and the UNDP.

*Manpower Expert, Directorate of Manpower and Statistics, Ministry of Development, Royal Government of Bhutan.

Within the country, organized training of long standing can be found in such occupations as primary teachers, skilled fieldmen in agriculture, stockmen and veterinary compounders, vaccinators, forest guards, etc.

First steps towards providing facilities for vocational education within the country were taken as far back as May 1965 at the Don Bosco Technical School at Kharbandi. This school has combined the role of a junior technical school and Industrial Technical Institute and has been turning out matriculates with technical subjects as well as craftsmen in such trades as electricians, carpenters, auto mechanics, etc. In recent months, the courses offered at the school have been reviewed, and, as far as possible, the emphasis on general education has been reduced and efforts to produce craftsmen for specific occupations have been initiated. The other notable institution in this field, at a higher level, is the Royal Bhutan Polytechnic at Deothang, established in 1974. This Ploytechnic at Deothang offers post-matriculate diploma courses as well as courses in Surveying, Draughtsmanship, etc.

Many aspirants for technical training have also been sent to India and other Colombo Plan countries for vocational and technical training. India has been providing such facilities in a variety of fields and almost at all levels. Colombo Plan countries, notably Singapore, Japan, New Zealand, Australia, and the United Kingdom have provided short and long-term courses, in such fields as degree and certificate courses in engineering, and short-term courses in various specialized subjects including secretarial practice, customs administration, etc. Here, at least in some areas, facilities available generally exceed the number of available candidates. Constraints in fuller and more effective utilization of these facilities are discussed later in this paper.

Estimates of Skilled Manpower Requirements

Though the Ministry of Development and the Department of Education have been engaged in initiating programmes for vocational and technical education within and outside the country for several years, a full-fledged Department of Manpower was established only in November 1973. This Department has been entrusted with the tasks of collection of manpower statistics, manpower planning, organizing employments services for nationals and non-nationals, sponsoring candidates for training within Bhutan and for fellowship abroad; in recent months, general issues relating to working conditions such as pay, promotion, incentives, etc. have also been added to the functions of this Department.

Under a directive from the Ministry of Development, the Department of Manpower has prepared an estimate of manpower requirements of the government sector for the next decade (1976-1986). However, these

estimates do not include the requirements for the armed forces, private sector and certain other specified fields: these requirements are being worked out. The present requirements have been estimated taking into consideration (i) numbers required for replacement of expatriate personnel, (ii) additional requirements for the programmes approved for inclusion in the Fourth Five-Year Plan (1976-1981) and (iii) an estimate of activities proposed for inclusion in the Fifth Five-Year Plan. A brief summary of the numbers required by educational categories is appended in **Annexure 1**.

These forecasts, as can be expected are, in the nature of first estimates and are liable for revision. A few months after they were drawn up, the Fourth Five-Year Plan has been finalized and the changes appearing in the final form of the Plan are certain to entail repercussions on these estimates also. Besides, statistics on national income, gross national product, rate of growth in different sectors of the economy and changes in productivity, etc. are not available and so estimates of manpower based on this data have not been attempted. As the country is in the initial stages of development, the role that government is likely to play in various spheres of development is not always easy to foresee: it is even more difficult to forecast how rapid would be the pace and extent of modernization in the country. There are also several other factors contributing to the uncertainties which render attempts at longer range forecasts almost impossible.

But as most categories of skilled manpower take a long lead time for development there seems no alternative to advance planning of their requirements and consequent review of programmes of general and technical education. The educational policies of the Royal Government of Bhutan reflect fully this concern for the educational system to fulfil the manpower requirements both in terms of numbers and quality. More particularly the relationship, between the output of educational institutions and the needs of employers is kept under constant review so that the country is not faced with continuing shortages of manpower in future and, what is even more important, that it is not burdened with surplus of highly educated and skilled personnel.

It is also clearly recognized that in a sparsely populated country with comparatively difficult problems of transport, most centres of government activity cannot sustain super specialists in considerable numbers. For example, specialists in neuro-surgery might not find enough suitable work even at any hospital in the country and it might be more practical to utilize existing facilities in neighbouring countries within easy reach. It is for this reason that facilities for excessively narrow specialisations are not being sought. In general, students are advised to return to the country as soon as

possible after graduation to get a feel of the ' broad spectrum ' needs of their occupations before they decide on the need to specialize or choose the field of specialization. The estimates of post-graduates reflect these imperatives.

So, the requirement of graduates and post-graduates—a good proportion of whom are expected to be educated outside Bhutan — (at least, in the foreseeable future) — are somewhat on the conservative side. Where annual requirements of any level/discipline is below fifteen to twenty a year, it is felt that installation of facilities for education on a permanent basis are not advisable. It would perhaps be more prudent to utilize existing facilities in other countries as many of them have institutions of long standing and faculties renowned for their professional abilities and experience. Many such institutions, particularly in engineering and medicine, are located in environments not likely to be available in this country for some time.

It is in the categories of matriculates and below that programmes for vocational and technical education within the country are expected to be most effective. For one, the requirements of trained personnel from among these categories is sufficiently large to permit annual intake of sufficient numbers to enable training institutions to be economically viable. For another, these categories of personnel most often have to work at operative levels and have to come in closer contact with the public than the more highly educated personnel; so, familiarity with the local language, customs and cultural peculiarities — all of which are easy to incorporate in training programmes conducted within the country — are more essential to these categories than to others. The Royal Government of Bhutan has been fully alive to the importance of training within Bhutan of these categories of personnel. International assistance in terms of expertise, equipment and fellowships is being utilized in most of these programmes. Specific issues relating to more fuller utilization of such aid is discussed in later this paper.

An estimate of the requirements of training at the level of matriculates and below is presented in Annexure II. The limitations indicated earlier in this paper in respect of estimates of manpower requirement also apply, *mutatis mutandis*, to these estimates.

Problems and Attempts towards Solutions

It has already been indicated that a significant proportion of the personnel employed in the government and in the private sector are expatriates. Considering the geographical proximity, historical ties and cultural affinities, between Bhutan and its neighbours, it is not difficult

to explain how large numbers of personnel from these countries have come to be recruited to perform these services. In many areas the personnel so recruited have been able to perform efficiently; in certain cases, particularly in the highly skilled occupations, the level of salaries elsewhere and fluctuations in the employment market have resulted in greater numbers of resignations than in the categories with lower skills. The question of recruitment of highly skilled personnel and their retention in a situation when the prevailing level of salaries in the country are not far higher than those in neighbouring countries — is one which admittedly must be facing many developing countries.

On the other hand, employment of nationals in various technical and managerial positions on the basis of initial qualifications alone also might raise more problems than it might solve. This is inevitable because in many cases there is no substitute for experience, particularly in public service where accountability, needs of co-ordination with agencies with differing emphasis on similar objectives, etc. give rise to needs of character and temperament not formed with only a few days of training, however new fangled it might be. Fortunately, this has been adequately recognized in this country and a combination of on-the-job training, job rotation and long spells of apprenticeship with peers in the profession and independent assignments in the districts have been effectively used in overcoming the need of experienced personnel in managerial and decision-making levels.

A closely allied issue is that relating to the alienating influence overseas education and training might have, particularly on the youth. An inability to readily adjust to conditions prevailing in the country is noticeable sometimes even in respect of students educated in neighbouring countries, despite the geographical proximity and cultural affinities. This is all the more pronounced in respect of students returning after long years of study abroad. The differences in language, culture, living standards and difference in emphasis on various issues according to local conditions—all these definitly seem to widen the sense of alienation which seem apparent in some of the students returning after long years spent outside the country. Patient counselling of these students before their entry into Government service has helped somewhat: a newly introduced programme of national service enabling them to serve for six months in a remote area of the country in development projects is another useful innovation designed to bridge this gap between what the overseas trainee expects and finds in reality. This can also be helped further if international courses conducted abroad make efforts not only to impart knowledge of the problems and solutions found in that country but relate them to some of the countries from which the trainees come from.

With the experience and abilities which the faculties of such training institutions may possess, it is felt that they might be able to perform this task better than the trainee who might not be able to overcome these problems individually, given his impressionability and, often his tender age.

It is also realised that education of Bhutanese nationals for long periods abroad, particularly in the social sciences should be progressively reduced. This is because political and legal systems of countries in which training is imparted is often wholly different from the conditions in this country and so it becomes difficult for a young man of only twenty or twenty two to make all the adjustments to apply the knowledge he has learned abroad quickly to the needs of this country. (Hence, Bhutan has been seeking more training facilities abroad only in technical and professional fields).

In the utilization of training facilities offered by foreign countries another serious difficulty being felt is that the minimum educational qualifications and experience prescribed for entry for various courses are often so high that they exclude most of the available candidates who might stand to benefit from such training. For instance, in the case of agricultural extension staff, there are in this country many outstanding extension workers with a keen awareness of the day-to-day problems involved in agricultural extension. But often these workers do not possess a university degree or diploma and therefore are excluded from most of the training courses offered. The idea of retaining flexibility in these matters seems to be generally accepted but there might still be areas where purposive action might make considerable difference in the proportion of trainees finally accepted by donor countries.

To a certain extent, this very situation is also met with in many training programmes conducted within the country. It is not always possible to find students with the minimum qualifications prescribed owing to their shortage either generally or at a particular time. In an anxiety not to leave training places vacant, it often becomes necessary to accept a few candidates within just a year or two behind either in terms of schooling or experience. This creates problems for the trainers who find the lack of uniformity in educational and professional attainments rather troublesome to tackle. These difficulties are particularly felt in departmentally run training programmes—which often lack the necessary resources and ability to impart training in other disciplines at short notice when faced with such disparate levels of attainment among the trainees.

In a larger sense, this problem is encountered frequently in situations within the country where the minimum entrance qualifications have to be lowered for a whole group of trainees because candidates with requisite

qualifications are simply not available at all or because the output is so urgently required that the batch has to be rushed through the training despite the lower educational or professional attainments. This raises the question of imparting the necessary supplementary academic and other skills to the trainees within a short period—nearly always within a period shorter than that taken in conventional class rooms in traditional schools. This takes us to the consideration of modern training techniques such as visual aids, working models, case studies, etc. which if intelligently adopted to the local situation, one fondly hopes, might overcome some of these problems. For example, training electricians and switch board operators from among students who may have studied six or seven years in a rural school and having lived in an environment where electricity has not reached at once underscores the difficulty of imparting knowledge of even commonly know principles about electricity to them before departmental training can commence. A student with about the same numbers of years of schooling in a metropolitian area might surely be expected to possess such background knowledge. This is a kind of the situation which has possibly to be overcome with a short period of pre-training. What forms such training ought to take and where best this could be imparted are matters for consideration.

It is a common feature in most developing countries, particularly in Asia, that white collar jobs in the government are more prized than others. In some situations, these jobs have even carried higher pay and better perquisites. No wonder, then, that technical training in many countries has tended to suffer on account of the greater attraction towards white collar jobs. In Bhutan, this has fortunately been averted by in-building differences in favour of technical jobs in the pay scales, introducing technical pay and other facilities for field workers in technical occupations and according preference to technically trained persons in the matter of study abroad. These are among some of the measures adopted to ensure that brighter students are attracted to technical training. In a sense, this seems to be taking place already because we find the clerical and stenography occupations increasingly attracting only girls rather than able bodied boys who seem to find better opportunities for public service in agriculture, forestry or engineering services.

There is already a keen awareness of the role that vocational and technical training ought to play in the programmes for meeting the country's manpower requirements. A nucleus for translating this awareness into purposive action already exists in the Directorate of Manpower which has been actively concerned with the problems of evaluating the benefits of training received abroad. It is proposed to expand this activity to cover training within the country also, to start with, programmes whose benefits

accrue to more than one employer. It is hoped that this step will be a forerunner of the developments that might ultimately result in a fulfledged Directorate of Training in the not too distant future when the number and diversity of training programmes within the country might warrant such full time attention.

In what ways can the international organizations play a more useful part in these developments ? In the first place, in training the trainers. It is obvious that only a small fraction of all eligible nationals can ever hope to receive all the training that foreign countries offer. Whereas, the trainers in institutions within the country handle large numbers of trainees every year and it is here that benefits of training abroad can be made to multiply. Admittedly the training, of operatiyes is easier than training of trainers—this is likely to involve in most cases, highly trained faculty members, more expensive training aids and methods—often in short supply anywhere. In the programmes offered by certain Colombo Plan countries exclusively for teachers, we see a recognition of this idea already. But in respect of tutors/trainers in nursing, agricultural extension, veterinary field workers training, to name only a few—there remain gaps that hopefully, appear certain of being bridged in the future. In the second place, would it be possible to consider the possibility of according more emphasis to tailor-made courses to suit the needs of just one or two countries with similar background rather than international courses where participants from advanced developing countries and least developed countries are thrown together ? This might go some way in reducing the lack of flexibility often encountered in the matter of relaxation of minimum standards of educational and professional qualifications. This might also help in some of the competent field staff of recipient countries in gaining international experience in their fields of work even though they lack formal educational qualifications.

Issues for Consideration

Given the uncertainties inherent in forecasting in what ways is it possible to utilize profitably the experience of other countries in the planning of facilities for vocational and technical education ? More precisely, what pitfalls can be avoided and what achievements can be ensured by reviewing their plans and subsequent events ?

What lessons can be learnt from international experience of tackling the problems of alienation of students trained overseas from their native environment ? Is there anything we can do during the training courses themselves to lessen this ?

In what practical ways is it possible to quickly upgrade the academic and professional skills of trainees with varying levels of initial qualification at the time of entry in training courses ? How best can we use the greater degree of maturity and keener sense of purpose of the trainees towards this end ? In what ways can this be considered by the Colombo Plan in respect of International courses offered by various member countries ?

What are the ways in which training programmes within the country can develop healthy competition for the allocation of scarce numbers of eligible trainees ? In what ways can the state usefully manipulate these forces to the advantage of desirable but not always attractive courses ?

What purposive role can international organizations play in respect of issues of urgent importance to this country in the area of training trainers and according more emphasis on tailor-made courses ?

Annexure I

ABSTRACT OF ESTIMATED REQUIREMENTS OF PERSONNEL BY QUALIFICATION FOR TEN YEARS (1976–86)

		Present Requirements	*Additional Requirements*	*Total*
Master's Degree Holders	...	150	300	450
Graduates	...	450	1,500	1,950
Engineering Graduates	...	100	200	300
Dzongkha Language Specialists				
Master's Degree	...	5	20	25
Graduates	...	10	50	60
Matriculates	...	20	150	170
Requirements for training/employment				
Matriculates	...	1,800	6,000	7,800
Class VIII & above	...	600	2,500	3,100
Class V — VII	...	200	1,500	1,700
Class I — IV	...	1,800	4,000	5,800

Annexure II-A

REQUIREMENTS OF TRAINING FOR MATRICULATES FOR TEN YEARS (1976–86)

	Present Requirements	*Future Requirements*	*Total*
General			
Typing ...	500	1,400	1,900
Shorthand & Typing ...	60	200	260
Accountancy ...	80	350	430
Survey Training ...	8	75	83
Library Science ...	5	10	15
Statistics ...	22	70	92
Journalism ...	4	10	14
Commercial Art ...	6	10	16
Teachers Training ...	220	1,038	1,258
Postal Clerk ...	24	70	94
Office Management ...	75	100	175
Store Keeping ...	50	125	175
Art Photography ...	4	10	14
Philately ...	7	20	27
Customs Training ...	3	20	23
Sales Tax Inspector ...	2	5	7
Technical			
Draftsmen ...	71	110	181
Telephone Operators ...	10	100	110
Electrical Engineering ...	55	250	305
Mechanical Engineering ...	32	175	207
Civil Engineering ...	194	350	544
Automobile Engineering ...	12	90	102
Printing Technology ...	8	30	38
Carrier Mechanic ...	3	15	18
Teleprinter Mechanic ...	4	25	29
Metereology ...	—	10	10
Wireless Operator ...	57	100	157
Electronics ...	4	10	14

	Present Requirements	*Future Requirements*	*Total*
Agriculture			
Fishing ...	9	20	29
Veterinary Field Assistant ...	19	30	49
Agriculture & Horticulture ...	77	400	477
Sheep Breeding ...	18	50	68
Foresty ...	40	350	390
Tourism Department			
Hotel Management ...	4	10	14
Tourism ...	15	30	45
Catering ...	4	5	9
Travel Operation ...	8	20	28
Hotel, Food & Beverage Management (lower level) ...	14	140	154
Health Department			
Senior Nursing ...	28	90	118
Sanitary Course ...	6	10	16
B. C. G. Technicians ...	7	10	17
X-Ray ...	7	13	20
Laboratory Technician ...	17	14	31
Dental Technician ...	7	5	12
Total ...	1,800	6,000	7,800

Annexure II-B

REQUIREMENTS OF TRAINING FOR CLASS VIII AND ABOVE FOR TEN YEARS (1976-86)

Training		*Present Requirments*	*Future Requirements*	*Total*
General				
Typing	...	50	100	150
Accounting	...	25	80	105
Store Keeping	...	60	100	160
Technical				
Lineman	...	20	250	270
Wireman	...	10	40	50
Automobile Engineering trade	...	65	225	290
Fitter	...	7	60	67
Blacksmith	...	15	25	40
Mechanical Engineering trade	...	30	90	120
Welding	...	20	60	80
Carpentry	...	20	30	50
Tinsmith	...	4	20	24
Turner	...	10	60	70
Upholsterer	...	10	40	50
Painter	...	15	40	55
Plumbing	...	10	30	40
Vulcanising	...	5	40	45
Tool Making	...	—	20	20
Instrumental Mechanic	...	—	20	20
Mechanics	...	—	30	30
Milling	...	—	10	10
Servicemen	...	1	20	21
Music Operator	...	1	10	11
Driver-cum-guide	...	32	40	72
Painting teacher	...	—	10	10
Maintenance of Farm Machinery	...	20	120	140

		Present Requirements	*Future Requirements*	*Total*
Agriculture				
Forestry	...	80	450	530
Veterinary Field Assistant	...	28	230	258
Sheep Breeding	...	3	20	23
Poultry	...	1	20	21
Fisheries	...	1	20	21
Health				
Junior Nursing	...	22	100	122
Compounder/Health Assistant	...	35	90	125
Total	...	600	2,500	3,100

Annexure II-C

REQUIREMENTS OF TRAINING FOR CLASS I TO VIII FOR TEN YEARS (1976–86)

	Present Requirements	*Future Requirements*	*Total*
Technical			
Store Keeping ...	50	100	150
Carpentry ...	10	—	10
Tailoring ...	5	—	5
Compositor ...	5	10	15
Mechanic ...	50	10	60
General			
Traditional Painters ...	20	100	120
Sculptor ...	20	50	70
Telegraph Training ...	8	62	70
Vaccinator Training ...	—	120	120
Sureillance Workers ...	27	50	77
Total ...	195	502	697

Note : The numbers indicated here do not tally with numbers shown for this educational category in Annexure-1, because the bulk of persons required are for direct employment, without any pre-service training.

INITIATING A NATIONAL PROGRAMME FOR VOCATIONAL TRAINING

by

Shri M. S. Garudachar *

Basic Requirements for Initiating a National Programme

The wealth of a country depends, as we know, on its capacity to produce and that depends in turn on its possessing a labour force which is both highly skilled and very flexible. The sound planning of training at all levels in addition to being of immediate importance to industries will contribute to raising of living standards.

It is now being increasingly realised that the shortage of technical and skilled manpower at all levels has impeded the economic advancement of many of the developing countries. Though machines, capital and essential materials may be obtained from external sources, the skilled manpower for the development of any country can come basically from one source, i.e. men and women of that country. Vocational training is the means by which this objective is achieved.

Education and Training : It is important to distinguish between education and training, as the word "training" is often used as if it were synonymous with education or technical education. Education is a very broad term and is interpreted differently by different people, whereas "training" is a means of developing a productive and a useful labour force in the shortest possible time. In other words, a person is not trained until he is productive in industry or on-the-job. In this context, it has to be emphasised that all modern primary and secondary education should include basic science which should be taught in relation to local technologies as a prelude to vocational training. This is more for understanding principles than for acquiring external technical knowledge or skill. While planning vocational training a serious mistake will be committed if the importance due to traditional skills already available in the country is not given. These should be identified, recognised and developed.

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The following table summarises the different aims of education and training :

Education/Training	Aim
Primary and Secondary Education	Understanding principles at work in physical world. To develop spirit of inquiry.
Technical Education, Vocational Education	To develop and apply basic principles to specific occupations.
Training	To initiate the beginner into the real world of industry, farming and commerce, and to make him a productive, contented worker.

Basis for Formulation of Vocational Training Plans : In drawing up training plans to meet the country's estimated requirements the National Authority should have regard to all the information available. This should include —

(*a*) the current labour force including its age, sex, occupational distribution and educational standards ;

(*b*) the estimated labour force available during the period covered by the plans ;

(*c*) the current unfilled labour demands by occupation ;

(*d*) prospective future labour demands ; and

(*e*) the extent to which apprenticeship and other forms of vocational training are currently provided or proposed by employers or other agencies.

In estimating the future labour demands full account should be taken of future plans for economic development. The extent to which information is available on items (*a*) to (*e*) will depend upon data collected by the country concerned, and it will be necessary to call for special returns from employers and to carry out special surveys.

In the early stages of national planning for vocational training, the most one can hope to do is to plan for training to meet shortages which become apparent through the number of unfilled vacancies in particular occupations, such as bricklayers/masons, carpenters, joiners, plumbers,

agricultural machinery repair mechanics, electricians, machinists, draughtsmen, etc. Information on the extent of such unfilled vacancies can be obtained from employment exchanges/offices, advertisements, employers' and workers' organisations, etc.

National Authority for Vocational Training : There should be a Central or National Authority which should be responsible for ascertaining the vocational training needs of the country, planning training to meet the needs and to ensure that these plans are implemented. This National Authority can be a department in the Government or a National Board/Council set up for the specific purpose of the administration of vocational training. If the responsibility is vested in a government department it should sponsor the legislation required. In the event of a national training board being established, the Department of the Ministry responsible for the Board should undertake this work. In most of the countries, the Ministry of Labour is in charge of Vocational Training.

Relationship among Administrative Authority, Employers' Organisation and Workers' Organisation — clear understanding and close co-operation amongst the three parties :

(*i*) Co-operation between the three parties is indeed the key word and if it does not exist, training plans are unlikely to be successful. Both employers' and workers' organisations should be brought into consultation in the formulation and implementation of training plans. Final decisions must nevertheless rest with the national authority.

(*ii*) It is not sufficient, however, to limit the relationship with the organisations to consultation when national training plans are drawn up. For the relationship to be satisfactory, a system of communications must be established, so that the organisations are kept informed of what the authority is doing in the training field, and so that the organisation for their part may keep the authority advised of relevant developments in the fields with which they are concerned, and more particularly of the reactions of their members to what is being done.

(*iii*) Continuing contacts, both formal and informal, between the authority and the organisations and between the organisations themselves, are desirable at all levels. Co-ordinating Committees can play a useful role in the maintenance of the necessary liaison among all concerned.

Preparation of Syllabi, setting up of Standards and Certification: Where training centres are established by the national authority, experience has shown that it is important that the syllabi for the various trades should be drawn up centrally by experienced technical personnel after consultation

with employers' and workers' organisations and should not be left to local discretion. Reasonable discretion should, however, be allowed to executives in charge of individual centres to make only minimal changes in training courses to meet the requirements of employers, who undertake to employ persons on completion of their training. Syllabi should be kept under review, so as to take account of technical progress that has been continuously taking place. Standards of training should be laid down centrally to ensure uniformity and facilitate awards of certificates on a national basis. This will also provide for mobility of workers from one place to another in the country.

Determination of the Period of Training : The duration would, of course depend on the nature of the trade, the level of skill to be achieved. There could be short-term and long-term courses to meet the immediate and long-term needs. In the developing countries, there would have to be a mixture of both. Part-time courses would also have to be thought of for upgrading the skill of workers.

Development of Indigenous Technology and Training Programmes

Geographical, climatic, economic, social and other conditions vary from country to country. It is, therefore, not possible to transplant wholesale methods developed and successfully implemented in more developed countries. All these factors have to be considered in detail for identifying the types of skills required and to evolve suitable Vocational Training Programmes to meet the requirements of the country.

The efforts being made so far at technological and industrial developments in the developing countries have been greatly influenced by the pattern set in these fields in the advanced countries instead of being based on objective considerations of what would be best for each country. This aspect is being realised and the developing countries are now giving serious consideration for the development of indigenous technology. The considerations are :

(*i*) the strategy of development in all spheres should ensure the continuously increasing involvement of more and more people in useful employment ; and

(*ii*) that considerable effort must come from within the nation to achieve real enduring development.

The first one brings about the required change in the national state of mind. It is not possible to keep people in high morale by giving them doles in place of jobs, even if such subsidy on large-scale were to be possible, since working is also a psychological requirement. The second one, namely that considerable development effort must come from within the nation builds the foundation for sustained development whose course can be kept fully under the control of the nation concerned.

The Economy of Bhutan: It is mainly based on agriculture and animal husbandry. The population of Bhutan is estimated at about 11 lakhs and the area under cultivation is about 9 lakh acres which constitutes about 9 percent of the total area of the country. About 70 percent of the total area is dense forest full of unexploited wealth. The main agricultural products are rice, wheat, millet, barley, maize, cardamom, oranges and apples, and large deposits of limestone, gypsum have been found and as a result of present exploration the indications are coal, graphite and the minerals exist in sizable quantities.

The two Five-Year Plans were launched in 1961 and 1966 respectively and the third Five-Year Plan of 1971-76 with an outlay of Rs. 3,550 lakhs is now under implementation. The Planning Commission of Bhutan is having an objective oriented approach towards the process of country's socio-economic development.

The increase in per capita consumption of electricity is an index of the economic development of a country. The installed capacity of the Hydro-Electric Power Projects in Bhutan will increase in the third Five-Year Plan from 760 Kw. to 4,000 Kw. Simultaneously steps have also been taken to create an industrial base.

Training Systems: Industrial and technological developments should go hand in hand. Therefore, training programmes should also undergo suitable modifications to keep up with the developments that are taking place in technology and industry. The most common types of training skilled workers are :

(*i*) Institutional training ;

(*ii*) 'On-the-job' or apprenticeship training.

But of late, on-the-job training is being preferred for the following reasons :

(*a*) The institutional training is highly expensive involving heavy capital inputs and it also takes 2 to 3 years to materialise.

(*b*) On-the-job training could be organised within the existing industrial establishments at an appreciably less cost and time.

(*c*) The instructors would be more up-to-date in their knowledge and skill.

(*d*) This would inculcate a sense of realism in the trainees and acquisition of work experience would be quicker.

If conventional types of training in the training centres/institutes, which operate for only a few hours each day and close down for a few months for summer or winter vacations, are to be employed, the concept of universal availability of training opportunities would be beyond the financial resources of most Governments, certainly those in the less developed countries. In consideration of these facts, the International Labour Organisation, based on several years' experience and research, have evolved a vocational training system based on modules of employment skill. This system is quite different from other modular systems already in use in U.K. and other countries.

In the ILO system an analysis is made of the actual skill requirements within an existing occupation. This analysis is designed to answer the question " what does this worker actually need to know in order to obtain gainful employment at an appropriate level in this sector or occupation ? " This combination of knowledge and skill would constitute a **module of employment skill.** There being an almost infinite number of levels of skill, each module of employable skill will be complete in itself. It will accordingly be designed to provide the individual worker with the necessary skill, attitudes and knowledge to meet his needs at whatever level this may be and matched with the actual needs of the society, sector or occupation in which he finds employment.

Selection of Trades: The developing countries are by now aware of their manpower requirements. This, therefore, makes the task easier. A list of trades as are needed by the developing countries, like Bhutan is given at Annex ' A '. Out of these, depending upon the regional/national requirements, a group of trades could be selected and an institute set up. It is desirable to limit the number of trades to 10 or 12. In the initial stages of organising the Institute the strength should not be excessive and a strength of 150 to 200 is considered reasonable.

Type of Equipment and Furniture: In regard to selection of equipment and furniture considerable thought has to be given to select the right size and type of equipment and furniture bearing in mind the utility, cost, and valuable workshop space, etc. It is not desirable to go

in for costly sophisticated equipment which are not in keeping with the technological developments or requirements of the country. However, the position needs to be reviewed every 4 or 5 years as the technology develops.

Land and Buildings:

(*i*) There are many constraints on the financial resources of developing countries and therefore priorities have to be established for the optimum utilisation of available resources. There has been a tendency in the developing countries to put up costly and imposing buildings which are not necessary and take away much of the money required for purchase of equipment, furniture and other essential items required for training.

(*ii*) For the development of balanced personality adequate sports and recreational facilities should be provided. It may be necessary, depending on the location of the work place, to provide hostel accommodation to some of the trainees. All these factors have to be taken into consideration while selecting and acquiring the land for an institute or a centre. However, setting up of the institutes/centres should not wait for the buildings to be completed. They could be set up even in temporary buildings and a start made at the earliest.

Location of Vocational Training Centres: When the National Authority decides to establish training centres, careful consideration will need to be given to their location. If an area has a sufficient supply of persons for training, and at the same time can offer a sufficient number of opportunities for employment to those trained, it is axiomatic that a centre should be established in that area. However, difficulties occur where an area, although a good recruiting ground, cannot offer sufficient opportunities of employment for persons trained, or has the opportunities for employment, but not a sufficient field of recruitment.

In general, the common experience has been that it is better to locate a centre in an area with a good field of recruitment, and then to transfer trainees to areas of employment after training, than to send people for whom opportunities of employment do not exist locally away from home for training. Workers are more ready to transfer to a job than to leave home for training.

Organisation Chart: An Organisation Chart (Annex 'B') depicts the structure and functions of a National Authority/Board for effectively initiating and implementing vocational training programmes on national

base. Only broad outlines of subjects to be dealt with are given. But as the work increases due to developmental activities further sections would have to be added and staff strengthened.

Selection and Training of Instructional and Supervisory Staff:

(*i*) Any training programme, however well conceived and planned, cannot be implemented effectively without competent staff. I would say this aspect would be the most crucial in developing any training programme especially so, in developing countries. The technical and administrative staff should be carefully selected and trained before they are actually put on the job. Rapid technological developments are taking place both in industry and methods of teaching and it is, therefore, necessary that the staff is re-trained at an interval of 5 years at least, if not more frequently.

(*ii*) It may not be a worthwhile proposition in the case of countries whose requirements of technical instructors/supervisors are limited, to set up Instructor Training Institutes/Centres and such facilities could be availed of from neighbouring countries or in the institutes set up by Colombo Plan Bureau or International Labour Organisation depending upon the level at which the training is required.

Motivation and Incentives Procedural Delays: In spite of best training and working conditions, it is to be expected that if a person continues to do the same type of work continuously over a few years it becomes routine and his efficiency comes down and with it his job satisfaction wanes. In order to keep his interest sustained, motivation has to be provided by evolving suitable incentives. Though appreciation of one's work has a psychological effect, it would not be a substitute for an incentive. Merit has to be recognised while considering persons for promotion or higher training. At the same time opportunities have to be created for them to improve their knowledge and skills to qualify for higher jobs.

Even in the case of trainees effective action has to be taken for motivating them to put in their best to acquire the skills as quickly as possible. One of the impediments in the effective implementation of any training programme in the developing countries is the procedural delay in dealing with the proposals expeditiously. This not only causes frustration and consequent reactions, but also raises the cost of projects and delays in implementation.

Maintenance of Standards: Though the standards may have been prescribed on a national level, it has been observed that the quality of training in the institutes and establishments vary considerably from

region to region and institute to institute. For the quality to be maintained at uniform level, it is very necessary that periodical inspections are carried out by competent officers. Another aspect which has a direct bearing on the quality of training is a well planned maintenance schedule for machines and equipment.

Other Important Aspects: The participants may be aware of several other aspects to be considered in the matter of efficient implementation of Vocational Training Programmes, but for brevity I may refer to a few of them for fuller discussion at this Seminar. They are —

(*i*) Methods of selection of trainees, techniques of framing and administering aptitude tests and conducting interviews;

(*ii*) Identification of more trades and determination of the levels of skills;

(*iii*) Preparation and use of instructional materials and selective use of audio-visual and other training aids;

(*iv*) Progressive trade tests — procedure for certification;

(*v*) Wastages in training — analysis in depth and remedial measures.

The Colombo Plan Bureau, the International Labour Organisation and other agencies are actively assisting developing countries in establishing a sound vocational training system and I have, therefore, no doubt that in the coming years the progress in this field, as in others, would be significant in the developing countries like Bhutan.

Annexure 'A'

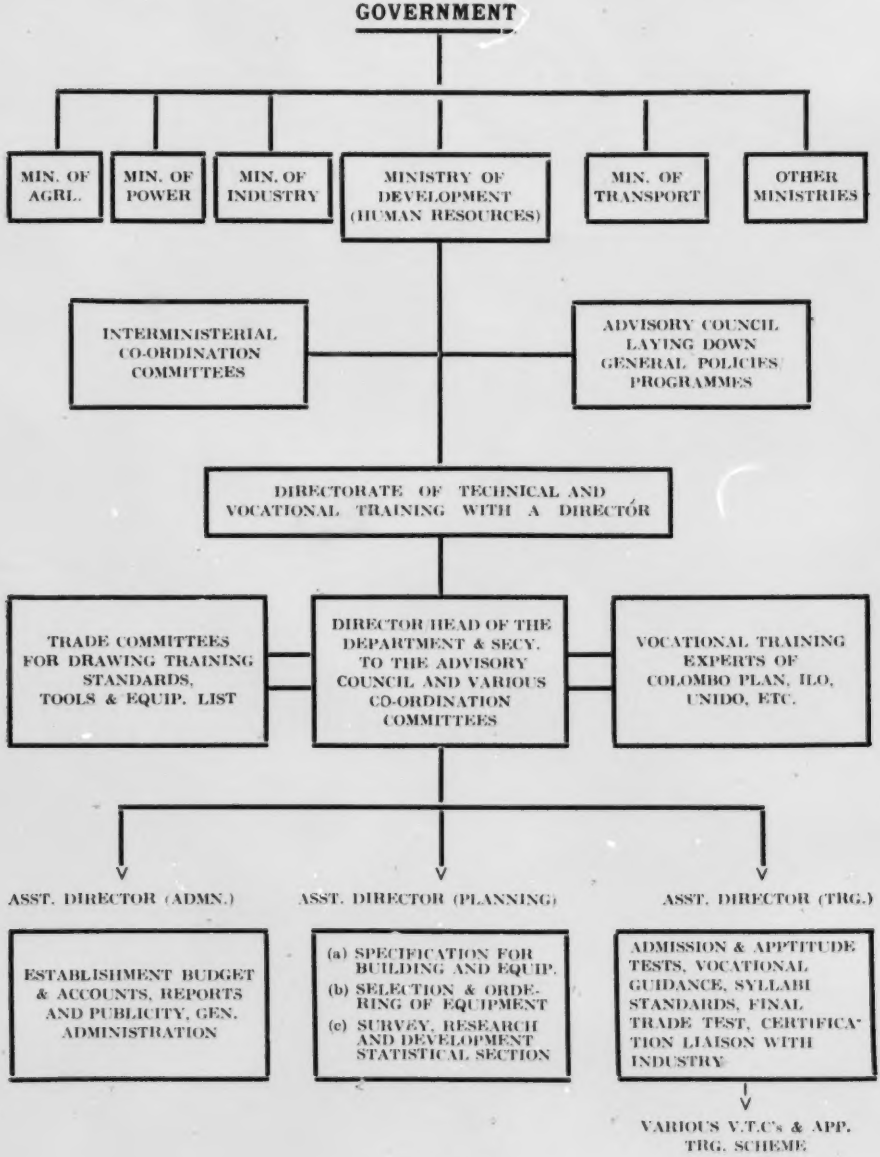
LIST OF TRADES FOR WHICH TRAINING FACILITIES HAVE TO BE CREATED IN THE DEVELOPING COUNTRIES

1. Fitter
2. Machinist
3. Turner
4. Blacksmith
5. Welder
6. Sheet Metal Worker
7. Electrician
8. Electronics (Mech.)
9. Radio and Television Mech./Technician
10. Wireman
11. Linemen
12. Cable Jointer
13. Carpenter
14. Plumber
15. Mason
16. Painter and Decorator
17. Surveyor
18. Draughtsman (Mech.)
19. Draughtsman (Elec.)
20. Draughtsman (Civil)
21. Motor Mechanic
22. Farm Equipment Mech.
23. Printing Machine Operator
24. Composing by hand & Machine
25. Book Binding
26. Dress Design (Cutting and Tailoring)
27. Embroidery & Needle Crafts
28. Hand Weaving
29. Carpet Weaving
30. Tanning
31. Leather Goods Manufacture
32. Footwear Making
33. Upholstry
34. Dairy
35. Poultry
36. Piggery
37. Fishery & Fish Preservation
38. Canning & Preservation of Fruits & Vegetables
39. Catering
40. Cookery
41. Bakery
42. Bleaching, Dyeing & Printing
43. Laundry and Dry Cleaning
44. Rope Making
45. Cane Work & Basket Making
46. Pottery
47. Tape and Newar Making
48. Stenography
49. Book-Keeping
50. Store-Keeping
51. Forestry
52. Mining Trades

The above are only illustrative and there are many more trades which are to be identified after conducting suitable surveys and studies.

Annexure 'B'

TYPICAL ORGANISATION CHART
&
FUNCTIONS
OF
DIRECTORATE OF TECHNICAL & VOCATIONAL TRAINING


GOVERNMENT
MIN. OF AGRI.
MIN. OF POWER
MIN. OF INDUSTRY
MINISTRY OF DEVELOPMENT (HUMAN RESOURCES)
MIN. OF TRANSPORT
OTHER MINISTRIES
INTERMINISTERIAL CO-ORDINATION COMMITTEES
ADVISORY COUNCIL LAYING DOWN GENERAL POLICIES PROGRAMMES
DIRECTORATE OF TECHNICAL AND VOCATIONAL TRAINING WITH A DIRECTOR
TRADE COMMITTEES FOR DRAWING TRAINING STANDARDS, TOOLS & EQUIP. LIST
DIRECTOR HEAD OF THE DEPARTMENT & SECY. TO THE ADVISORY COUNCIL AND VARIOUS CO-ORDINATION COMMITTEES
VOCATIONAL TRAINING EXPERTS OF COLOMBO PLAN, ILO, UNIDO, ETC.
ASST. DIRECTOR (ADMN.)
ASST. DIRECTOR (PLANNING)
ASST. DIRECTOR (TRG.)
ESTABLISHMENT BUDGET & ACCOUNTS, REPORTS AND PUBLICITY, GEN. ADMINISTRATION
(a) SPECIFICATION FOR BUILDING AND EQUIP.
(b) SELECTION & ORDERING OF EQUIPMENT
(c) SURVEY, RESEARCH AND DEVELOPMENT STATISTICAL SECTION
ADMISSION & APPTITUDE TESTS, VOCATIONAL GUIDANCE, SYLLABI STANDARDS, FINAL TRADE TEST, CERTIFICATION LIAISON WITH INDUSTRY
VARIOUS V.T.C's & APP. TRG. SCHEME

Colombo Plan Bureau's Director, Miss Leonore E. T. Storar presiding at the first Plenary Session of the Seminar. On her left are Mr. V. R. S. Cowlagi, Manpower Expert, Ministry of Development, Thimphu, and Mr. M. S. Garudachar, Director of Training, Directorate-General of Employment and Training, Ministry of Labour, New Delhi. On her right is Mr. Nado Rinchhen, Officer on Special Duty, Department of Education, Ministry of Development, Thimphu.

Some of the Seminar participants, and, at left, Mr. W. A. Barnett, Adviser on Staff Development, Colombo Plan Staff College for Technician Education, Singapore, presenting his Working Paper.

HUMAN RESOURCE DEVELOPMENT IN AN AGRARIAN ECONOMY

by

Mr. W. A. Barnett*

INTRODUCTION

The central theme of this Seminar is " National Planning of Vocational and Technical Training ". It would be an interesting diversion to consider what constituted training and its relationship to education and development. My task this morning is to discuss Human Resource Development—not capital, not economic, not material resources—but human resources as it is these resources which constitute the wealth of the nation.

Capital and natural resources are passive factors of production, human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organisations and carry forward national development. Clearly, a country which is unable to develop the skills and knowledge of its people, through a planned system of education and training, and fails to utilise them effectively in the national economy will be unable to develop anything else.

At this stage I would like to give you my definition of " Human Resources " as the energies, skills, talent and knowledge of people which are, or which potentially can or should be, applied to the production of goods or rendering of useful services. Thus the term connotes more in relationship to the world of work, and such work involves producing things and providing services of all kind in the social, political, cultural and ecomomic development of nations. The " human resources approach " to national development, therefore is people—orientated, though it never presumes to encomposs the full range of human ambitions or endeavours. Man may work to live, hopefully he lives for more than work. Indeed the energies and skills of people as members of the labour force are but one dimension of human development which embraces as well the thoughts, motives, beliefs, feelings, aspirations and culture of human beings beyond and outside at work. But in economic terms the wealth of a nation can be expressd in terms of the level of development and effectiveness of the utilization of human energies, skills and knowledge for useful purposes.

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Human resource development is the process of increasing the knowledge, the skills and the capacities of all the people in a society. In economic terms we can think of it as creating an accumulation of human capital for the eventual investment in the development of the economy of a nation. In political terms, human resource development prepares people for adult participation in the governing process of the country. The cultural and social aspects of human resource development result in people living—fuller and richer lives, less bound by superstition and tradition. Overall human resource development unlocks the door for the expansion of knowledge and skills for the people of a nation to progress into the future.

The development goals of a modern society are political, cultural, social and economic. It has become accepted practice to measure the wealth of a nation and its development by income or more precisely gross National Product (GNP) or Gross Domestic Product (GDP) per capita. Thus the wealthy countries, that is those with high GNP are considered advanced countries and underdeveloped countries are characterised by very low income per head. Rates of growth or progress along the road of modernisation, are commonly measured by the annual increment in national income or product expressed in monetary term. Now I wish to ask this question : Is this the only goal ? Are not other goals—for example, maximisation of education and knowledge, better health, limitation of population growth where necessary, or improvement in the environment—of equal or greater importance. Human resource development is a necessary condition for achieving all these goals. A nation requires educated political leaders, lawyers, judges, engineers, scientists, doctors, teachers, artists, craftsmen, farmers, etc., to spur its development. In an advanced economy the capacity of man is extensively developed; in a primitive country man is for the most part under-developed. If a country cannot develop its human resources it cannot develop much else. Countries are under-developed because most of the people are under-developed having had no opportunity of expanding their potential capabilities in the services of society. It is our task to throw some light on how the resources can be developed to achieve a balanced development.

Human resources may be developed in many ways. To most of us involved in education the primary approach is through formal education, beginning with primary education continuing through secondary and finally tertiary. As a secondary method we would consider the development of human resources through on-the-job training either by systematic or informal programmes in employing institutions or establishments. In addition, there is adult education programmes through extension courses

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of many kinds, membership of various political, social and religious groups. Finally, there is the process of self-development where individuals seek to acquire greater knowledge, skills and capacities by taking formal and correspondence courses from both within and outside the education system, by reading, by learning from others in an informal environment. In the past, these non-formal or secondary approach to human resource development have been under-rated by educationalist but it is now realised that the approaches can constitute a major part of human resource development. Two further processes of human resource development should be noted, there are improvements in the health of the population through better medical and public health programmes and improvement in nutrition which increases the working capacity of the people both in a man hour basis and over the working life of the population.

This process of human resource development which we are considering is a necessary adjunct to the economic growth of a country if it is to achieve the modernisation that is the goal of all nations today.

Before we look at the specific contribution that education makes to human resource developments let us pause to stress that this process of human resource development is also very necessary for the transformation of social and political institutions which people of developing nations are seeking. While economists and humanists will disagree on what is the main purpose of human resource development there should be conflict over the major goal of most societies today, that is to have rapid economic growth. To achieve this goal the programme must be designed to provide the knowledge, the skills and the incentives required by a productive economy.

Problems of Human Resource Development

The major problems of human resource development will fall into two broad categories :

(1) Those related to the shortage of 'high level' manpower with critical skills and compliances.

(2) Those related to redundant or under utilised manpower.

To overcome these problems is our major consideration but before we can proceed let us look at some of the critical areas of choice with which we are faced.

(1) In all areas of formal education the importance of quality versus quantity.

(2) In secondary and tertiary education the stressing of science and technology versus the arts, law and humanities.

(3) In skill development whether reliance will be placed on pre-employment formal training versus on-the-job informal training.

(4) To build the necessary incentives for encouraging people to accept non-white-collar jobs and to work in the rural areas, through the manipulation of wages and conditions of employment by government versus forces of the open market.

(5) Consideration of the needs and desires of the individual versus the requirement of the state.

Formal Education

The choice between quality and quantity of education can be broken into three areas namely, primary, secondary and tertiary. The decisions on whether to have quality or quantity will be influenced by many factors not the least of which will be the number of well qualified teachers available and what school or college buildings are available plus the amount of the national budget which is available for education.

Primary Education

Universal primary education is a political goal of most governments and must be eventually achieved. While a country is developing it will probably be necessary to temper this with the need for quality. Experience in a number of developing countries shows that where universal primary education has been attempted using unqualified or poorly qualified teachers the result have been unsuccessful. The drop-out rate even in the first grades is high and because the overall standards brought about by poor teaching, are low, many of the pupils relapse into illiteracy within a year or two of completing their primary education. Research in this area has been far-reaching and there are extensive statistics for those who are interested to study. Despite the problems of ensuring attendance at primary schools due to resistance and isloation it is necessary that sufficient schools of quality be established to produce sufficient students suitable for secondary education for the provision of a high level manpower which is one of the necessities of a developing economy. If I may crave indulgence here and plead a case for the rural population which in so many countries is ignored and it certainly suffers because of isolation and other factors. Invariably any time-table for schooling is based on what fits the urban population failing to take into consideration the needs of planting, harvesting, tending the herds, etc., which are normally part and parcel of the children in rural areas. Every consideration should be given to arranging school hours and terms, semesters and examinations, etc., to fit the needs of the rural population.

Secondary Education

Having ensured that there will be students coming forward to the secondary system it is necessary to look at what the objectives of the secondary system should be considering that the output from the secondary system is to provide basic knowledge to the scientists, teachers, skilled workers, craftsmen, doctors, etc. i.e., the high level manpower group. The choice between providing pre-employment vocations education and pre-employment general education has resulted in considerable research and the results would indicate very strongly that a general education is far superior in most cases. The most responsive method is to provide professional, crafts and vocational training in various ways either at the employers institution or at a tertiary institution.

Tertiary Education

Tertiary education will be limited to a tiny fraction of the population and whether to provide it within the country in the initial development of the country or take advantage of international and bilateral aid offered must be given considerable study. The building of prestige universities and technician institution with their costly equipment and staff should be delayed until the output of sufficient well qualified students emerge from the secondary system, justifies the expenditure of such a large proportion of available funds. Having decided to provide tertiary education the tendency to indulge in a proliferation of courses should be contained and courses restricted to those necessary for the development of the country.

Non-Formal Education

Non-formal education involves learning processes and experiences outside the regular, graded school system. It thus includes everything from learning from parents, communication with others, and learning from experience to formal training on-the-job, apprenticeship, adult education, and participation in organized out-of-school programmes such as youth brigades, extension services, community development projects, and health and family planning clinics. Probably more people are exposed to non–formal learning activities than to formal schooling. And as a continuing process of development of skills, knowledge, and capacities of the labour force, non-formal learning and training are certainly as important as formal education.

What then are the actual or possible functions of non-formal education in developing societies ?

First, it provides a wide range of learning services which lie beyond the scope of formal education.

Second, non-formal training and education may be an alternative or substitute for formal education.

Third, non-formal education is a means of extending skills and knowledge gained in formal education.

Fourth, non-formal education in many countries may be the only available learning opportunity for large proportions of the population.

Fifth, non-formal education may be one means of counter-balancing some of the distortion created by formal education. To a considerable extent, formal education establishes the gateways to positions of wealth, status, and power. It issues entry passes in the form of certificates, diplomas, and degrees to a privileged minority; those without the proper credentials are blocked. But competence and learning very often are measured poorly by credentials. Thus, achievement-oriented, non-formal education may provide the means for growing numbers of competent but " uncredentialed " people to gain access to higher level jobs in the economy.

Finally, non-formal education often provides greater opportunity for innovation than centralised formal education bureaucracies do.

Incentives

It is a fact of life that most highly educated and skilled personnel wish to obtain ' white-collar ' situations preferably within the urban environment. If the forces of the open market are allowed to control commercial development, the movement of the highly qualified workforces into areas giving minimum drive to the achievement of a modernisation and economy will result. The need for manipulation of wages and conditoions of services certainly exists but how and where and to what extent will be subject to much discussion. There is certainly a move afoot in some countries to :

(*a*) make the ' blue-collar ' worker the elite group and remunerate him accordingly.

(*b*) to reward those who are willing to work in rural communities by accelerated promotion, free housing and other incentives.

Individual Desires

Finally, there is the choice between individual desires and the need of the State. There will always tend to be some conflict here but does the State exist for the individual or the individual for the State ? There can

be no simple answer and though human resource development has as a goal freedom and dignity of man, man also has obligations to help create the economy which provide acceptable living standards for all.

In conclusion, on the choices available it is essential to realise that the strategy of human resource development is the need to achieve a balance in *choices* between the various alternatives, which will be the most predominant features of any strategies adopted depends on the goals of the society, level of development and its leadership. Failure to achieve a proper balance will produce the wrong kind of manpower at the wrong time, will result in the wrong kind of education, the wrong kind of training and lastly the wrong sort of incentives.

Development of Current Manpower

In considering human resource development the current manpower must not be overlooked. As stated earlier one of the problems that exist is that related to redundant and under utilised manpower. The manpower already in the workforce comes under the latter category and the problem of upgrading this workforce are considerable. This is particularly so in this region where an average of 60% — 70% of the working population is involved in agriculture. Of this number a large proportion are illiterate subsistence farmers. Many of these workers have a wealth of experience and often have considerable skill. By careful evaluation and selecting the natural leaders in these communities it should be possible to develop these people as catalysts for the upgrading of the skill and knowledge of others in their communities. The balance of 30% — 40% of the workforce will normally constitute the elite and high level manpower components in the workforce. In a developing country there is always the necessity to upgrade the skills and knowledge of this manpower but unfortunately because of critical shortage they are seldom to be spared for lengthy periods to attend training courses. The need therefore is to encourage self-development for these people as it is a very important component to the human resource development.

Towards a Strategy of Human Resource Development

Before any strategy of human resource development can be formulated it is necessary that a manpower survey and analysis be completed. From this the Manpower Planning Council or any other body responsible for manpower planning, will produce a manpower plan normally for a period of five years. The membership of this Council will vary from country to country but as one of its sub-committees or boards there should be a Human

Resource Board or similar agency comprising staff from Ministries of Education, Vocational Training, Health, Agriculture, Public Works and Industry and Commerce. In addition, Industrialists and Union Leaders should be included on this board. This agency should formulate a policy which will :

(1) Co-ordinate the activity of all interested agencies ;

(2) Encourage forward planning on the part of each within its particular area of interest;

(3) Assume responsibility for human resource assessment on a continuing basis.

(4) Relate human resource programmes to planning in all other areas;

(5) Construct and periodically revise a master strategy ;

(6) Promote and review the implementation of the strategies which has been agreed upon.

Developing a Strategy for Human Resource Development in an Agrarian Economy

As noted earlier most countries within the Colombo Plan region have economies which are agrarian based and between 60% — 70% of the workforce are engaged in agriculture of some form. Because the cry has been mainly for industrialisation of the economies emphasis has been given in most part to producing a workforce that meets this requirements for industry. I feel that in some cases this has been a short sighted approach in a world which is suffering from a chronic shortage of food. It is hoped that the strategy portrayed in this paper will show the way to greater productivity in an agrarian economy. Looking at the priorities for a logical strategy the following would appear pertinent.

First in the perspective planning period, economic growth will depend on expansion and improvement of agriculture, horticulture, forestry and cottage industries plus the discovery and exploitation of any natural resources. For example, mining of minerals and development of hydroelectric potential.

Second, the development of the infra-structure, to support the increased productivity required by the rural areas must be expanded quickly.

Third, there will be pressure to replace expatriates by local nationals in the medium and high level positions in government, commerce, agriculture and education.

Fourth, government officials and planners will expect secondary schools and any institution of higher learning to produce the critically needed higher level manpower for localisation and the development of agriculture and natural resources. In the formulation of this strategy for secondary and tertiary education the interests of individuals may have to be subordinated to those of the State.

Fifth, the achievement of universal primary education which has already been stated to be a political long-term goal must be considered. Pressure will be exerted from many sources to try and have this implemented even at the expense of economic development. Universal primary education will be included in any planning to become effective as and when finances and qualified teachers become available. The increasing demand for higher living standards, better health services as well as more opportunities for education must not be ignored by the ruling class.

Outline of Strategy that could be Adopted

The most logical starting point would be to carry out localization of government services and education. This requires that selected replacements be made 'assistant to' the various expatriates in the governing board of education who are then given the responsibility of training their replacements. This process must be planned and expatriates given ample notice of what to expect and what will occur, otherwise resentment will be displayed and little training of the local personnel may take place. The next critical step in building this strategy is a programme of upgrading and training manpower in any established employment organisation. Since in most cases the government is the major employer in many developing countries, government ministries must assume most of the responsibility for lower and middle level technical training. In other words, any highly skilled manpower in employing establishments must become trainer as well as performer as it is not anticipated that the educational institution will be able to provide the necessary training activities to upgrade the workforce. It would appear that developing countries are better initially, any way, to rely on in-service training rather than to construct vocational and technical schools which require experienced faculties and quite possibly highly paid expatriate teachers. It will be necessary to set up training courses for agriculture systems and from my own experience the best way to do this is to establish government or State farms, orchards and nurseries in various parts of the country and endeavour to operate these on a commercial basis. The provision of extension courses and community development programmes to give part-time and evening courses in medical and sanitary health, adult literacy and also for cottage industries in a very helpful and useful programme.

Incentives and the Elite

In most developing countries the most prestigious occupations are usually of the least importance to the economic development of the country, positions like lawyers, artists, government officials, administrators, accountants plus the host of other prestige white-collar occupations attract the educated manpower available. While no country can dismiss the need for these people, incentives must be found to influence the newly educated workforce coming forward to become agrarian scientists, technicians and skilled craftsmen, which will benefit the economy that will give greater job satisfaction and which are much more rewarding. Incentives for these people and others to work in rural areas must be introduced and must be attractive enough to encourage the necessary personnel to live and work in rural areas.

Development of Human Resources

To design and implement a strategy of human resource development within the constraints imposed by limited finance and on untrained workforce is extremely difficult. The resources available to education are limited as it will have to compete against all the other urgent development programmes. The design of an appropriate strategy might contain the following element :

Firstly, the secondary education system. The expansion and possible reform should be given urgent priority if it has been found wanting. Emphasis should be to provide free secondary education for those students who have shown above average capabilities during primary education. This will in some countries change the criteria for those attending secondary education from one of ability to pay, to one of ability to learn and become useful citizens in a developing country. The problem of rural communities is again present and though boarding schools are useful they are extremely costly and it would be a better proposition to establish smaller secondary schools in many areas rather than a limited number of large prestige schools in the major cities. The use of correspondence, radio, and T.V. educational programmes must not be overlooked. From my own experience, a good correspondence school or college can be of immense help to isolated rural population. The main consideration is that secondary education shall be general and provide a broad base on which to build the necessary skills and knowledge which will enable the workforce to be upgraded with further development of the nation. The use of full-time pre-employment vocational schools must be kept to a minimum. Pakistan in their first five-year plan spelt this out when they said :

"This secondary school system should not be relied on to train pupils for specific occupation in agriculture, commerce or industry. Its rule in relation to vocational education for boys and girls is to give knowledge and skill which will widen their opportunities for more particularised vocational or professional training in employment or higher institution. The best educational process for training in an occupation is "learning by doing it on the job."

Certainly to the maximum extent possible craft and skill training below the professional and technician levels should be the responsibility of the employing agencies.

This you may say is fine for countries with extensive industry, but in an agrarian economy there are no employing agencies as such. Certainly there is a problem in many areas and my suggestion is that again the government must set up training farms, orchards, nurseries and forests and operate these both as commercial enterprises and training establishments.

Returning to secondary education, there must be a re-orientation in some instances towards a fundamental and broad education, which includes adequate exposure to science and mathematics, for students proceeding directly to jobs, to become technicians, or school teachers or university entrants. This emphasis on multi-purpose general education will provide a basis for people who can retrain at a later date after they have gained work experience. It would allow for skilled workers to upgrade craftsmen and craftsmen to technicians or even technologists.

Ruralisation of Curricular

The suggestion to introduce an agricultural bias in education for countries with an agrarian economy was first noted in about 1922 in a number of East and Central African countries. Due to the educational constraints existing in these countries at the time little support was gained for the idea. In 1947, after the war a new attitude to this suggestion made its appearance. Educationalist now demanded that education should have a 'rural flavour' in the curriculum of primary and secondary schools. Following reports by Jeffery on West Africa and Binns on East and Central Africa it was proposed that a gradual implementation of rural flavour be injected. Jeffery saw it in West Africa.

* "It is (1) right and natural that, in areas which are predominantly agricultural, the schools should be what they do and the way they do it to help spread knowledge of, and respect for, the life and ways of the country-

* G. B. Jeffery et al,: "Report of the West Africa Study Group", in United Kingdom Colonial Office and the Nuffled Foundation, op. cit., P[illegible].7—37.

side. Most schools have recognised this and their answer has been to introduce "farming" into the time-table as the main—often the only—practical activity. Some practical work connected with the cultivation of the land, the growing of crops, and the care of stock should certainly have a place in any country school; but it will have little effect on the minds of the pupils unless what they do outside is linked with what they do in the classroom .....). It ought not to be possible to find English, Arithmetic, History, Geography, Nature Study and Art taught in such a way that it is impossible to tell from examining the syllabus or the children's books, or from listening to the lessons, whether the school is serving an urban or a rural population. And yet it is precisely what is happening in countless schools up and down the West Coast (of Africa)."

Binns remarking on similar conditions on similar basis in East and Central Africa, wrote this about infusing class-room work with rural bias. Both writers pointed out that the problems involved would be considerable but the concept has great merit.

* "The opinion is sometimes expressed that children of primary age are too young for any work in agriculture to be either educationally possible or within their physical powers. If this were so, the outlook would not be bright, because the majority of those who go to school get nothing beyond primary education.

In fact, reading, writing and arithmetic can all grow out of the work in the school garden instead of out of the environment of the class-room. All kinds of objects can be labelled and drawn, written and talked about. Plots can be measured, seeds counted, costs used in many sums, as well as questions of weights and measures. We saw excellent vernacular readers, particularly in Kenya, and these are often related to a rural background. But what is needed in addition is reading material relating to and arising directly out of the school garden and its work."

Higher Education Priorities

The output of agricultural, scientific and engineering graduates from any institute of higher learning should be expanded at the expense of the art, humanities and law. This curtailment of some faculties will certainly bring strong opposition. The aim must be to establish incentives that result in a better qualified student from secondary education deciding to qualify in agriculture and forestry, soil science, breeding techniques and

* A. L. Binns et al.: "Report of the East and Central Africa Study Group", ibid., PP. 58—141.

science technicians. Those wishing to enter university should be influenced to join faculties of agricultural science. As explained earlier differentials for rural workers must be at the expense of those who wish to hire and work in urban areas in white-collar jobs. In terms of numbers of manpower the greatest need is for sub-professional and even lower category personnel, such as agriculture and scientific assistant, secondary school teachers, nurses, medical technicians and motor mechanics, etc. Remuneration for these classes of workers should not be based on what has happened in the developed countries but needs to be gauged on what contribution to the national economy each vocation makes. To make this type of career more attractive salaries of these sub-professionals should be rated with those enjoyed by non-technical university graduates.

There are many ways of training the sub-professionals and various combinations may be employed. To achieve the best results, training on-the-job in conjunction with attendance at some formal educational institution is necessary. I would like to mention sandwich, block or part time day-release courses as guides but in all cases the involvement of government department, industry and commerce as employers should be a major criteria.

Innovations in Education Technology

In any educational programme institutes in a developing country the shortage of qualified teachers at all levels exist. This together with a large rural population will call for many innovations in education technology. To meet the requirements for quality with limited qualified teachers the use of such new techniques as visual aids programmed learning, teaching machines and instruction by radio and T.V. will be necessary. Some of these techniques allow a limited number of well qualified teachers and instructors to reach a very large proportion to the population either as students or adult trainees.

Upgrading on Present Manpower

The final element in the strategies must be an extensive programme to upgrade the present workforce. In a country with large rural population and limited access roads this is possibly the most difficult part of the programme of human resource development. It must be anticipated that a large percentage of the older generation are illiterate. Ten or twelve years ago when living in a country within this region, I was intrigued to find, a community TV set, set up in a special cabinet in each of the small communities, which were not large enough to be called villages. This was controlled by the local Headman and I thought then what a marvellous

way it was to educate the people, because the work is explained and it is possible to observe what is being demonstrated and thereby the learning process is made easy. While I appreciate the cost involved and the pro blems of supplying electricity and other facilities to provide T.V. in each of the communities, the greatest problem that I can envisage in human resource development is the improvement of the knowledge and skills of the individual farmer, orchardist, weaver, carpenter, etc. which make up the present workforce. The word workforce as has been used is not only applicable to man but also to the women who invariably constitute a considerable proportion of the labour available in the rural community.

In conclusion, Human Resource Development in an agrarian economy differs little from those economies which have as their objective to industrialise. The overall objective too in all cases is to achieve modernisation of the nation by increasing the skills and knowledge of the people and a better economy. The fact that some countries are increasing the knowledge in the technical field while others are pursuing it in agriculture is immaterial. The goal is always the same. In the case of Bhutan there are certain factors which require special mention. Firstly, as the country is at present under-populated and imports a large proportion of unskilled workers it may therefore be necessary to train as many of its workers be they male or female, to a level above the semi-skilled worker. This is necessary as Bhutan should supply the supervisors and managers from its workforce to oversee this imported labour.

Secondly, because at this stage of development most industry and commerce is comparatively unsophisticated there is little need for the highly qualified technician or scientists Bhutan's high level workforce whether it be male or female, should consist at this stage mainly of skilled workers and craftsmen with a sprinkling of technician and university graduates.

The emphasis will be on agriculture, horticulture, forestry and the infra-structure necessary to increase production and export plus the need for upgrading and improving the product from cottage industries. They will also need to increase the infra-structure to increase the social, political, health and cultural development of the population. Successful development in the final analysis will not only depend on weli constructed plans or cleverly designed strategies. It can only result from action. Development in practice as distinct from development plans, demand that a people and their leaders become energised and committed to attainment of common goals. A human resource development strategy and a programme for general development of which it is a principal part should strive to build consensus and engender enthusiasm of the entire nation.

THE COLOMBO PLAN AND BHUTAN

by

Dr. Aminul Huq *

Bhutan became a member of the Colombo Plan in 1962 at the Consultative Committee Meeting held in Melbourne and joined the Colombo Plan Council for Technical Co-operation in South and South-East Asia in the following year. It has derived benefit of its membership of the Plan and has received aid both in the form of capital aid and technical assistance from Australia, Britain, India, Japan and New Zealand.

The total aid received by Bhutan amount to U.S. $2,556,349. Of this Australia contributed U.S. $2,036,000, Japan 348,000, New Zealand 132,349 and Britain 40,000. Technical assistance received amount to U.S. $869,476 while total assistance received on equipment amount to U.S. $166,346. The major fields in which Bhutan has received scholarships and training awards, numbering 164 are :

Trainees			Students		
Agriculture	...	(33)	Humanities	...	(14)
Education	...	(21)	Education	...	(5)
Public Administration	...	(17)	Engineering	...	(3)
Works & Communications		(17)	Economics	...	(3)
Industry & Commerce	...	(11)	Medical Sciences	...	(2)

Agriculture has been the major field in which Bhutan has received assistance in the form of experts working in Bhutan. A list of major Colombo Plan assisted projects is annexed.

The Colombo Plan

The Colombo Plan was conceived at a meeting of the Commonwealth Foreign Ministers in Colombo in January 1950. Its aim has been the economic and social development of South and South-East Asia through the co-operative efforts of the countries in the region assisted by other member countries.

All Colombo Plan aid is negotiated bilaterally. The receiving country determines its needs and begins negotiations with a donor country on the best way to fulfil them. From the beginning, the concept of co-operation and equality among members was emphasised.

*Adviser on Intra-Regional Training, Colombo Plan Bureau.

The 27 member countries of the Colombo Plan are :

Within the Region : Afghanistan, Bangladesh, Bhutan, Burma, Cambodia, Fiji, India, Indonesia, Iran, Republic of Korea, Laos, Malaysia, Republic of Maldives, Nepal, Pakistan, Papua New Guinea, the Philippines, Singapore, Sri Lanka, Thailand and Republic of Vietnam.

Outside the Region : Australia, Britain, Canada, Japan, New Zealand and the United States of America.

There are four focal points around which the Colombo Plan revolves:

(1) The Consultative Committee is the top policy-making body consisting of ministers of member governments. This Committee meets each year in one of the member countries. Its task is to survey the development of the region, assess the needs, and to examine how international co-operation — in the twin forms of capital aid and technical assistance — can help to fill the gaps in national resources and accelerate the pace of development.

(2) The Colombo Plan Council consists of the representatives of all the Colombo Plan countries most of which have diplomatic missions in Colombo. The Council, which meets regularly in Colombo, does not deal with questions of capital aid. Its task is limited to promoting and co-ordinating technical assistance in the region.

(3) The Colombo Plan Bureau is located in Colombo and has four main functions : (*i*) serving as a participating body at Consultative Committee Meetings and acting in an advisory capacity for the Meetings, (*ii*) recording all the technical assistance given to the countries of the region under the Plan, (*iii*) promoting intra-regional technician training, (*iv*) disseminating information on the Plan as a whole.

(4) The Colombo Plan Staff College for Technician Education, which is located in Singapore, was established in 1974 as the first 'multilateral' Colombo Plan Project. All 27 member governments are contributing in one form or another towards its operational costs. The College's main function are to :

(*i*) undertake programmes in staff development and training for technician education staff;

(*ii*) conduct study conferences and courses for senior administrators in technician education;

(*iii*) promote and undertake research in the special problems of technician education and training within the region;

and (*iv*) provide advisory and resource services in technician education and training to countries both within and outside the region.

There are numerous ways in which the countries of the region could derive benefit by their membership of the Colombo Plan. The following are cited as examples of such benefits.

(*i*) Receiving capital aid and technical assistance on a bilateral basis.

(*ii*) Participation in the Meetings of the Consultative Committee and the Council.

(*iii*) Availing of opportunities for third country training.

(*iv*) Participation in the Bureau sponsored Programmes relating to Intra-Regional Training and Drug Abuse.

(*v*) Participation in the programmes of the Colombo Plan Staff College for Technician Education in Singapore.

Intra-Regional Training Programme

An important part of the Intra-Regional Technician Training Programme sponsored by the Colombo Plan Bureau are the Regional Colloquia on Intra-Regional Technician Training held in countries of the region every two years. Six Regional Colloquia have been held so far in New Delhi (1965), Bangkok (1967), Singapore (1969), Manila (1971), Karachi (1973) and Kuala Lumpur (1975).

The main objectives of this Seminar is to focus attention on the need for a planned and co-ordinated approach to vocational training at the national level. Bhutan has an advantage over other developing countries in that it is developing a system of education suited to its needs. It could profit by the mistakes made by other countries in the region and plan a system of education, which would include vocational training as an important element, geared to meet the specific needs of its economy.

National Plan for Vocational Education and Training

It is generally recognised that the main hope for developing countries, which are trying to accomplish in a matter of decades the economic and social advances that took centuries in the developed countries, lies in the optimum development of their human resources. In order to achieve this, major changes and improvements must be made in the educational and training programmes in order to ensure that the right kinds of people are training in the various vocations and skills to meet current and future labour market and social requirements. In this connection, the importance of preparing a National Plan for Vocational Education and Training will be obvious. However, vocational education and training cannot be viewed in a vacuum. It is closely related to a country's stage of economic and social development and to it's social and economic needs.

The main elements in such a Plan for Vocational Education and Training would be : survey of skilled manpower resources available, survey of skilled manpower requirements, both existing and planned and proposals on how these requirements could be met by training locally and by external assistance. Such a plan should ideally be a part of a long-term national plan for economic development. The successful implementation of a National Plan for Vocational Education and Training will largely depend on the Ministries which are assigned responsibility for administering training programmes.

The great advantage of a National Plan for Vocational Education and Training would be that the development of the manpower resources of the country would be rationalised and geared to meet specific needs. It would also result in minimising waste of resources. Another great advantage would be the availability of a blueprint which could be used in seeking assistance from donor governments and international aid agencies.

A major problem affecting the establishment of a Vocational Education and Training Plan in a developing country is the prevalence of varying levels of education among those admitted for training. Trainees in the same field may vary from illiterates to secondary school graduates. It may be possible for illiterate persons to carry out the work involved in such occupations as traditional fishing, farming and handicrafts quite efficiently according to the prevailing standards. But the aim of any Government is to raise standards of performance in these occupations with the result that literacy and education in general will become necessary to a progressively greater extent.

Bureau Publications

For the past 12 years the Colombo Plan Bureau has endeavoured to encourage intra-regional training at the technician level. Most of the countries in the region have adequate training facilities to meet their own requirements, and a few of them are in a position to take in trainees from neighbouring countries. The training facilities in India, Republic of Korea, Singapore and Pakistan have been used extensively by regional member countries under Colombo Plan arrangements. These and other countries in the region have excellent facilities which could be used with advantage. From time to time, the Bureau publishes a Handbook of Technician Training Facilities in South and South-East Asia. This contains information of training facilities available for the training of technicians. Bhutan will require the services of more and more technicians and skilled workers in the future. The Polytechnics and Training Institutes in India would be excellent for this purpose.

The Colombo Plan Bureau also published in 1972 an "Inventory of International and Regional Centres" which lists a number of regional institutions which have been established to meet the specific needs of the countries of the region. Some of these institutions are intended for research and advanced training and hence they may not be of immediate value to Bhutan. An up-dated revised version is expected to be published shortly.

Another publication which could be useful to Bhutan relates to Third Country Training. In this booklet information is provided of the Third Country Training Programmes of the leading donor countries. Third Country Training could make an important contribution to meet the training requirements of countries in the region. The Bureau booklet provides information to officials on how the programmes work and how greater and more effective use could be made of this funding system. Copies of these publication are available for distribution.

Role of External Assistance

The countries in the region have received external assistance in the following forms to develop their systems of vocational and technical training:

(*i*) Capital — either as loans or grants.

(*ii*) Services of technical personnel serving as consultants, advisers or experts, either individually or in teams.

(*iii*) Fellowships for study abroad in donor countries or in third countries.

(*iv*) Physical and technical equipment, machinery, books, etc.

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The sources from which this assistance has come are diverse :

(*i*) Bilateral sources including member governments of the Colombo Plan.

(*ii*) Multilateral sources such as Unesco, ILO, FAO, the World Bank and the Asian Development Bank.

(*iii*) Private foundations such as the Ford Foundation.

As a consequence of the considerable experience gained in utilising foreign aid in programmes of technical and vocational training, the following points merit consideration.

(*i*) The nature of the aid provided must be clearly defined and it must be suitable for the purpose intended.

(*ii*) The conditions under which foreign aid is provided must be flexible.

(*iii*) As aid from diverse sources can result in varying standards in technical and vocational training, care must be exercised to see that national standards are not unduly affected. In this connection, it would be desirable for some centralised agency to exercise control in receiving and utilising technical assistance.

(*iv*) In the case of overseas training, it must first be ascertained whether the training is really needed. Care must be exercised in the proper selection of trainees and there should be follow-up on their difficulties. When the trainees return, they must be put to optimum use on the jobs for which they were trained.

(*v*) In the case of experts, provision should be made for their orientation, to adapt them to local conditions. Local counterparts of the right kind should be appointed to work with the experts. Some provision should also be made to ensure that the experts also report regularly to the recipient government concerned on their performance and the problems encountered.

(*vi*) Technical assistance programmes should be used more often for the practical training of technicians, craftsmen and skilled workers in industry in donor countries.

(*vii*) Technical assistance should be used to a greater degree in areas where regional countries are handicapped such as technical education staff development.

Bhutan is a country which faces a shortage of trained personnel in every field and at all levels. There are no marked sectors for different types of work and industries that contribute to the economy of the country. Thus any manpower programme, planned to meet the requirements of the country's economy, will depend basically on the education and training provided to the youth and its population. The development of human resources should be viewed in its totality in relation to the availability of both self-emplmoyent opportunities and job opportunities in the labour market, the social and economic conditions of the country and the aptitudes, attitudes and motivations of individual people. It is only by taking these factors into consideration that it would be possible to prepare a National Plan for Vocational Training which would ensure the planned development of human resources to meet the needs of the country.

Annexure 'C'

Major Colombo Plan assisted Projects in Bhutan

Project	Assisted by
Wool for cottage industries	AUSTRALIA
Cattle for upgrading local dairy herds	
Trucks and spare parts for transport pool	
Fruit preservation study (A $3,000)	
Four Land Rovers and spare parts ; and tree-planting equipment (£15,574)	BRITAIN
Teaching staff for school at Thimphu and Paro	
Development Assistance : Construction of trunk roads, provision of telecommunication facilities, carrying out of geological surveys and maintenance of hydrometeorological stations	INDIA
Agricultural machinery for Paro Farm (Yen 83,159,812)	JAPAN
Bhutanese typewriter (Yen 1,150,000)	

Appendix 'D'

LIST OF PARTICIPANTS

Co-Chairmen

Dasho Om Pradhan	—	*Secretary, Ministry of Trade, Industries and Forests, Thimphu.*
Mr. Nado Rinchhen	—	*Officer on Special Duty, Department of Education, Ministry of Development, Thimphu.*
Miss Leonore E. T. Storar	—	*Director, Colombo Plan Bureau.*

Consultants

Dasho Lam Penjor	—	*Secretary, Planning and Development, Ministry of Development, Thimphu.*
Mr. V. R. S. Cowlagi	—	*Manpower Expert, Directorate of Manpower and Statistics, Ministry of Development, Thimphu.*
Shri M. S. Garudachar	—	*Director of Training, Directorate General of Employment and Training, Ministry of Labour, New Delhi.*
Mr. W. A. Barnett	—	*Adviser on Staff Development, Colombo Plan Staff College for Technician Education, Singapore.*

Participants

Dasho C. Dorji	—	*Director of Forests Resources Development, Ministry of Trade, Industries and Forests, Thimphu.*

Dasho Pema Wangchuck	—	*Director of Agriculture and Animal Husbandry, Ministry of Development, Thimphu.*
Dasho (Dr.) T. Younten	—	*Director of Health Services, Ministry of Development, Thimphu.*
Dasho (Dr.) P. W. Samdrup	—	*Superintendent of Health Services, Ministry of Development, Thimphu.*
Mr. Tshering Dorji	—	*Assistant Director of Agriculture, Ministry of Development, Thimphu.*
Mr. D. N. Katwal	—	*Director P. & T. and Information, Ministry of Development, Thimphu.*
Mr. A. K. Pradhan	—	*Superintending Engineer, Department of Power, Ministry of Development, Thimphu.*
Mr. Dorji Norbu	—	*Executive Engineer, P.W.D. Division No. 1, Ministry of Development, Thimphu.*
Mr. Lhakpa Tshering	—	*Executive Engineer, P.W.D., Phuntsholing Division, Ministry of Development, Phuntsholing.*
Mr. Rin Gyeltshen	—	*Deputy Divisional Engineer (Telecommunications), Ministry of Communications, Thimphu.*
Mr. Rinchen Dorji	—	*Director of Trade and Industries, Ministry of Trade, Industry and Forests, Thimphu.*

Mr. Dorji Tenzing	—	*Joint Director of Animal Husbandry,* *Ministry of Development,* *Thimphu.*
Mr. Parsuram Sharma	—	*Assistant Director of Education,* *Education Directorate,* *Ministry of Development,* *Thimphu.*
Mr. N. B. Chettri	—	*Assistant Director of Education,* *Education Directorate,* *Ministry of Development,* *Thimphu.*
Capt. Yeshey Dorji	—	*Mechanical Engineer,* *P.W.D. Workshop,* *Ministry of Development,* *Thimphu.*
Miss Chandrakala Gurung	—	*Principal,* *Teachers' Training Institute,* *Samchi.*
Mr. P. T. Keronga	—	*Mechanical Engineer,* *Government Workshops,* *Ministry of Finance,* *Thimphu.*
Mr. Lhendup Dorji	—	*Mechanical Engineer,* *Government Workshop,* *Ministry of Finance,* *Thimphu.*
Mr. Y. T. Lepcha	—	*UNDP/UNIDO Project Co-ordinator,* *B.G.T.S., Ministry of Finance,* *B.G.T.S. Building,* *Thimphu.*
Mr. V. S. Murti	—	*Chief Engineer,* *P.W.D.* *Ministry of Development,* *Paro.*

Mr. B. D. Shandilya	—	*Director,* *Department of Hydel,* *Ministry of Development,* *Thimphu.*
Mr. R. Natrajan	—	*UNDP/ILO Expert,* *Deothang Polytechnic,* *Deothang.*
Mr. Michael Clare	—	*UNDP/ILO Expert,* *Don Bosco Technical School,* *Phuntsholing.*
Mr. J. Tyson	—	*Principal,* *Thimphu Public School,* *Thimphu.*
Mr. P. B. Nair	—	*Principal,* *Paro Central School,* *Paro.*
Mr. G. B. Kurup	—	*Principal,* *Samchi Central School,* *Samchi.*
Mr. O. P. Arora	—	*Principal,* *Tashigang Central School,* *Tashigang.*
Mr. H. J. McCarty	—	*UNDP/FAO Expert,* *Forest Department,* *Ministry of Trade, Industry & Forests,* *Thimphu.*
Mr. E. L. Bauer	—	*UNDP/UNIDO Expert,* *Thimphu Government Workshop,* *B.G.T.S. Building,* *Thimphu.*
Mr. K. Nishioka	—	*Colombo Plan Expert (Agriculture),* *Bondey Farm,* *Paro.*

Mr. Jigme Tshultim	—	*Acting Under Secretary,* *Ministry of Communications,* *Thimphu.*
Mr. Bhim Subba	—	*Assistant Engineer,* *Hydel Directorate,* *Ministry of Development,* *Thimphu.*
Mr. Karma Dorji	—	*Deputy Secretary,* *Ministry of Trade Industries and Forests,* *Thimphu.*
Mr. Sangye Thinley	—	*Divisional Forest Officer,* *Forest Department,* *Ministry of Trade, Industries and Forests* *Thimphu.*
Dr. J. S. Berkeley	—	*Superintendent,* *Thimphu General Hospital,* *Thimphu.*
Dr. (Mrs.) M. I. K. Berkeley	—	*Medical Officer,* *Thimphu General Hospital,* *Thimphu.*
Dr. G. Bey	—	*Principal,* *Deothang Polytechnic,* *Deothang.*
Dr. L. M. Wertheim	—	*WHO Public Health Administrator,* *Department of Health Services,* *Thimphu.*
Fr. P. Mario	—	*Principal,* *Don Bosco Technical School,* *Phuntsholing.*
Fr. Dominic	—	*Teacher,* *Don Bosco Technical School,* *Phuntsholing.*

Fr. W. Mackey	—	*Principal,* *Kanglung Public School,* *Kanglung,* *Tashigang.*
Fr. J. Coffey	—	*Principal,* *Punakha Public School,* *Punakha.*
Miss V. Ritter	—	*UNICEF Pre-School Care Adviser,* *Education Department,* *Ministry of Development,* *Paro.*
Major Pem Tshering	—	*Director,* *Department of Registration,* *Thimphu.*
Dr. G. Prakash Dubey	—	*UNDP/FAO Fisheries Expert,* *Department of Animal Husbandry,* *Thimphu.*
Mr. V. B. Rangnekar	—	*Managing Director,* *Penden Cement Factory,* *Pagli,* *Phuntsholing.*
Mr. Pema Wangdi	—	*Under-Secretary,* *Foreign Aid Section,* *Ministry of Development,* *Thimphu.*
Mr. Pem Namgyel	—	*Transport Officer,* *Ministry of Finance,* *B.G.T.S.,* *Phuntsholing.*

ROYAL GOVERNMENT OF BHUTAN OFFICIALS

Dasho (Dr.) T. Tobgyel	—	*Secretary-General, Ministry of Development.*
Dasho S. Penjor	—	*Foreign Secretary, Ministry of Foreign Affairs.*
Mr. D. K. Chhetri	—	*Deputy Director, Foreign Aid Section, Ministry of Foreign Affairs.*
Mr. Dophu Tashering	—	*Deputy Director (Protocol), Ministry of Foreign Affairs.*
Miss Tshering Rabgye	—	*Assistant Protocol Officer, Ministry of Foreign Affairs.*
Mrs. Leki Wangmo	—	*Assistant Protocol Officer, Ministry of Foreign Affairs,*
Mrs. Dawzam	—	*Assistant Protocol Officer, Ministry of Foreign Affairs,*
Mr. Tashi Chhogyel	—	*Ministry of Education.*
Mr. P. N. Sharma	—	*Assistant Engineer (Electrical) P.W.D.*
Mr. Bhim Subba	—	*Assistant Engineer, Hydel Department.*
Mr. P. V. K. Prasad	—	*Section Officer (Electrical), P.W.D.*
Mr. B. Gurung	—	*Assistant Administrative Officer, Ministry of Development.*

COLOMBO PLAN BUREAU

Mr. C. Pathmanathan

Mr. A. L. M. Hassan Alavi

Co-ordinators

Mr. Nado Pinchhen	—	*Officer on Special Duty, Department of Education, Ministry of Development, Thimphu.*
Dr. Aminul Huq	—	*Adviser on Intra-Regional Training, Colombo Plan Bureau.*

COLOMBO PLAN BUREAU
NATIONAL SEMINARS, COUNTRY WORKSHOPS AND REGIONAL COLLOQUIA

The Colombo Plan Bureau has held the following National Seminars, Country Workshops and Regional Colloquia with the active co-operation of the member governments concerned:

National Seminars

"Approaches to Co-operation between Industries and Institutions in Technical Training"

— Colombo, Ceylon	.. February	1965
— Bangkok, Thailand	.. October	1965
— Manila, Philippines	.. March	1966
— Singapore	.. November	1967
— Teheran, Iran	.. June	1968

"Manpower Assessment and Educational Planning"

— Colombo, Ceylon	.. June	1966

"National Planning of Vocational and Technical Training"

— Lahore, Pakistan	.. July	1969
— Tjipajung, Indonesia	.. December	1969
— Petaling Jaya, Malaysia	.. June	1970
— Seoul, Republic of Korea	.. August	1970
— Kathmandu, Nepal	.. June	1972
— Male, Republic of Maldives	.. June	1974
— Dacca, Bangladesh	.. February	1975
— Thimphu, Bhutan	.. April	1976

"Technical Education and Training"

— Madras, India	..December	1972

Country Workshops

"New Directions in Vocational Guidance"

— Marikina, Rizal, Philippines	.. February	1974
— Islamabad, Pakistan	.. February	1976

Regional Colloquia

"Intra-Regional Technician Training"

— New Delhi, India	.. April	1965
— Bangkok, Thailand	.. June	1967
— Singapore	.. May	1969
— Manila, Philippines	.. March	1971
— Karachi, Pakistan	.. April	1973
— Kuala Lumpur, Malaysia	.. April	1975